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GREEN'S FRUIT GROWER

The Oldest Fruit Journal in America



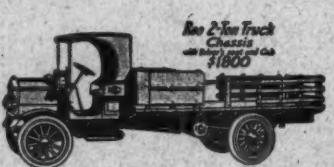
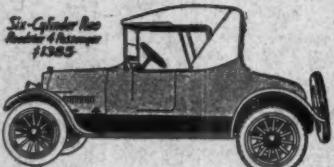
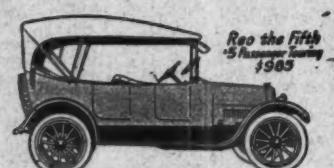
Rochester, N.Y.

Five Cents the Copy

September, 1917

REO

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**GOLD
STANDARD
OF VALUES**



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AND REO QUALITY at Reo Prices and backed by the Reo guarantee, constitutes "The Gold Standard of Values"—each model in its class.

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IN THIS ADVERTISEMENT we have space only for a brief paragraph pertaining to each Model—lest you forget the line is so complete that you can find the car you desire, in the type you prefer, and in a Reo.

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BUT THAT IS TRUE of all Reo models, without exception.

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Reo Motor Car Company
Lansing, Michigan

The Oldest
Fruit Journal
in America

GREEN'S FRUIT GROWER

Published by
Green's
Fruit Grower
Company

Volume 37

Rochester, N. Y., September, 1917

Number 9

Observations in an Orchard

By WILLIAM H. MOSIER, Ohio

Advertisement is the very best investment that any business or corporation can make, and this is no less true of fruit growing than of large manufacturing enterprises. For this reason it has not been long ago, that when the subject of commercial orcharding was mentioned, a person naturally thought of the Pacific northwest or some other region which had been widely advertised in newspapers, magazines and beautifully becolored and bephotographed pamphlets. Now granting that all their statements were true, which we are sometimes inclined to doubt, it is nevertheless apparent to the careful reader and observer that the center of fruit production is in the East. The average reader is generally surprised when he first learns of the immense plantings of fruit trees that are being made in the mountainous regions of the East. Take down your map of the Eastern states and notice the small strip of Maryland tucked away between West Virginia and Pennsylvania, and in the narrowest part and about 16 miles east of Cumberland at a small place called Old Town, we find the center of this rapidly developing region. It was this particular region that the writer had the pleasure of visiting recently and for a period of two weeks studied orchard conditions, and the ways in which problems peculiar to the locality are met.

The first impression you get of the country is one of rugged beauty. The mountains run in chains in a general north and south direction, with low ridges and deep valleys between. It is on the tops and sides of these mountains that most of the commercial plantings are made, the same being protected from frost by the excellent air drainage afforded by the elevations. In fact it never frosts on the higher elevations in the strictest sense of the word, the vegetation being killed by light freezes sometime during the month of November, while in the spring the last freeze generally occurs the latter part of March or the first of April. In the valleys of the same region killing frosts occur in September in the fall, and in the spring as late as the middle of May.

As the region is below the line of glaciation the soil is formed from the parent rock, and for this reason the geology of the country is of interest. The first formation is the Romney shales which outcrop along the lowest slopes of the mountains. These are topped by the sandstones of the Oriskany which are bedded from 300 to 400 feet thick, and these in turn are capped by the Helderburg limestones which are from 500 to 600 feet thick and form the tops and upper slopes of the ranges. It is from this formation that the so-called "Chert soil" has been derived, the same being characteristic of the region. It consists of angular pieces of chert varying in size from a small bird's egg to a gallon bucket, the majority being the size of a man's fist and smaller. To the stranger it seems queer for trees to be making an enormous growth and yielding enormous harvests on a soil covered with rocks of this description, but if you will take the trouble to dig around a bit, you will find that a few inches under the chert and sometimes mixed with it, is found a dark brown mass of almost pure leaf mold. For bear in mind that this is a comparatively new region agriculturally, and the soil has never been abused and mined of its fertility.

This area like most mountainous regions was originally covered with valuable forests of oak and chestnut and other hardwood trees, together with some pine and spruce. The lumber companies secured the land for its timber, and after denuding it of this valuable product, allowed it to become overgrown with shrub growth and brambles and cheerfully turned it over to the rattlesnakes and rabbits for an abode. In fact its disposal was quite a problem for the lumber companies and great areas were sold very cheaply, in some cases as low as twenty-five cents per acre. The companies considered themselves lucky even when selling at this price, as the land was thought to be worthless and anything derived from its sale was considered clear profit. About this time a Mr. Miller who has traveled considerably thought he saw a way out of the difficulty. While in Japan he had noticed the fine orchards growing on the rocky mountain slopes of that country; and if trees did well in Japan under such soil conditions, why would they not do likewise in the United States under similar conditions? He accordingly advanced this idea to several leading citizens and was laughed at for his pains. Not to be deterred however, he secured an area of the then worthless land for the sum of fifty cents an acre, cleared it and planted it to peach trees at his own

The very fact that the region is rather difficult of access and the orchard relatively far apart, seemed to exclude from the beginning the small individually owned planting of 15 or 20 acres, and to have left the field almost entirely to large commercial companies, the same generally being owned by capitalists from the larger eastern cities. These plantings of course vary considerably in size, and range all the way from 5000 to over a million trees. As is always the case with a rapidly developing section of this kind, many stock companies were formed by enterprising promoters, the stock being sold to city men who knew little or nothing about orcharding. Some of these ventures were good, some bad and some indifferent, the majority being of the latter class. Thus fortunes were made and lost in the purely speculative side of the industry. This kind of promotion now however, is pretty much a thing of the past and fruit production has settled down on a sound business footing.

In the development of an orchard proposition in this region, the first thing of course is the selection of the site and the clearing of the land. The question of help has given rise to one of the most interesting phases of orcharding in the entire region, namely the establishment of the orchard camp and commissary. The Camp could almost be called a village in itself, and is run on the same plan as its predecessor or the lumber camp, doubtless to whose existence its origin is due. The natives who work for a camp and live in the vicinity, generally board at home but get all their supplies at the commissary, department of the same, being deducted from their monthly pay. Floating labor is that which comes and goes as favor dictates. Such labor is generally given room and board and \$1 per day per man, the work day consisting of 10 hours and pay for overtime.

In some of the more progressive establishments the gardener operates a small canning plant and cans the summer surplus for winter consumption. An average observer can tell the minute he steps on a property which one of these men is in charge. If the old gentleman is running the proposition you will notice the first of all a lack of system in general, buildings in need of repair, roads in poor condition, trees headed too high and entirely too thick, and last of all an adequate system of book keeping is wanting. His labor is also rather inferior and poorly cared for.

On the other hand if the modern college man is in charge, the first thing noticeable is some kind of systematizing of the various activities, or a strenuous attempt at the same. His buildings are generally in good repair, roads kept up, trees headed low and well pruned, and last but not least he maintains a system of bookkeeping and can tell you in a minute how much it costs to maintain a mule for a year, or to board a laborer a week, to produce a bushel of peaches or anything of the sort. In short the contrast between the two types of men is so striking, that if any one has any doubt about the value of a college training in agriculture or horticulture, this is the easiest place in the world to be disillusioned. The college man also gets the pick of the labor, for while he does not pay any more than the current rate of wages, he makes his camp more attractive by adding shower baths, reading and lounging rooms

(Continued on Page 9)



An Orchard of Shropshire Damson Plums and German Prunes

expense, purely as an experiment. Like many another visionary Mr. Miller did not live to see the outcome of his experiment, for he died soon after starting the project. The orchard however was taken over by his son and brought into bearing and even surpassed the wildest expectations of its promoter. From this time on the chert soils of the mountains have held their reputation as fruit producing areas. One of the direct descendants of Mr. Miller lives in the region, and owns and operates a 300 acre peach orchard, now in its tenth growing season. If the old gentleman could but return some August afternoon and see the strong young trees loaded with fine fruit, and some 150 men picking and packing the same, to say nothing of the many thousands of dollars in profits being returned to his relative, he could certainly consider himself a true benefactor of the human race.

The Orchard Mulch Problem

Prepared For Green's Fruit Grower by GEORGE F. JORDON

There has long been an absence of really practicable information concerning orchard mulches, their use, and relative importance of the kind of material to produce them. But the Ohio Station has recently put forth the results of its investigations and in these are many commendable ideas, which the orchardist, whether he be working on a large or a small scale, can utilize profitably.

Mr. F. H. Ballou who has been in charge of Orchard Rejuvenation work has the following to say:

Advantages in Mulching

"The experiments in mulching the orchard presented a problem that was solved simultaneously with that of restoration of fertility by the proper use of chemical plantfood. It is possible to use grasses and clovers continuously in orchards as cover crops, by stimulating their growth by means of chemical fertilizers, with advantage to the trees on poor soils. On fertile soils the advantage is less apparent, but even in this case the growth of material for mulching is good economy, because the result is fully equal to that of the best methods of culture and the growing of cover crops. The possibilities of grass culture in orchards, combined with mulching have been greatly increased and the necessity of orchard cultivation has been much lessened. There is now opened to orchardists a freer choice as to methods to be used in both the rejuvenation and the maintenance of apple orchards.

Mulch a Factor in Market Quality

"The importance of this will be seen when it is remembered that the fruit on apple trees in grass, and well mulched, is more highly colored than that produced by trees under cultivation. This fact points out one way to meet competition in the markets. Orchard mulching has decided advantages in certain particulars, but the growing of mulching material in the orchard with the aid of fertilizers is a more distinct and direct step in advance because of its greater practicability and wider application as well as its bearing upon market conditions."

Mulch Means Conservation Instead of Dissipation of Moisture

"The objection usually urged against the plan of growing mulch material in the orchard is that such a practice draws largely on the moisture content of the soil and that the trees and fruit will suffer in consequence. So far in our work there has been no evidence in support of such a theory; for vigor and growth of trees have been all, and even more at times than are desirable, while the fruit has attained good size, perfect form, and except where entirely hidden from the sun by the heavy foliage, of good color. The growth of grass takes place early in the season while there is an abundance of moisture in the soil, and is cut in June after which the accumulation of decayed and decaying vegetable matter on the surface conserves the moisture and keeps the soil cool by shading it heavily from the direct rays of the sun."

Transformation from Mixed Weeds to Fine Grasses

"One of the most striking results of the repeated use of chemical fertilizers on the overcropped, eroded, thin soils of the hilly sections of central, southern, and eastern Ohio, is that the sparse, almost worthless soil covering of weeds and poverty grass which almost invariably

occupies abandoned orchard areas, is soon replaced by a dense growth of the better and finer grasses which thrive and increase as the seasons pass; and which, annually clipped and permitted to lie on the ground, blanket the almost naked hillsides with a covering of decayed vegetable matter. No grass seeds have been sown in bringing about this surprising change. The secret of the amazing transformation is that, scattered among the weeds and poverty grass which nature provides to spring up and occupy land too deficient in plantfood to enable the better grasses to thrive, one may find here and there, by close inspection, weak struggling plants of timothy, red top, blue grass, and white and red clover. These plants are so small, delicate, and so few in number, in many cases,

same is also true of the results where the plantfood constituents—nitrogen, phosphoric acid, and potash, were used singly and in combinations. Where a quickly available form of nitrogen was used, a luxuriant growth of grasses such as timothy, bluegrass, red top, and orchard grass resulted; but scarcely any of the white or red clover was noticeable.

Importance of Acid Phosphate

"Not until the clover had attained its maximum development, disappeared and left in connection with the decaying roots a liberal store of available nitrogen, did the trees situated in the plots treated with acid phosphate alone or in combination with potash, begin to show any marked improvement in wood growth, foliage development, or disposition to produce fruit. In other words, these physical improvements came simultaneously with the stage of development of the clover product at which nitrogen from this legume became available to the feeding root systems of the trees. Hence this scheme of providing nitrogen as a factor in rejuvenation of neglected orchards of bearing age situated on very thin soil, is evidently too slow for practical use where prompt results in fruit production under these conditions is desirable; but the plan is entirely practicable, unusually promising and perhaps the most economical of all when so revised as to embrace the use of nitrate of soda with acid phosphate in such a way as not to stimulate the production of the various grasses manured to the extent that the clover will be covered or smothered out."

Where the annual fertilizer treatment was 350 pounds of acid phosphate, the yield was 2,716 pounds of hay—clover predominating.

The same amount of phosphoric acid supplemented with potash gave a yield of 2,884 pounds of hay per acre—clover predominating.

Where nitrogen was added and all three of the elements of plantfood supplied, yields of 3,458 pounds of hay per acre were secured for orchard mulch.

Where no treatment was given the yield was 840 pounds, not of hay, but of poverty grass and weeds.

There were many other advantages resulting from these treatments, but the results here outlined are sufficient to show the merits of this scheme of orchard mulching, and the practicability of the scheme puts it within reach of every orchardist.



Producing generous quantities of good grass for mulching purposes with the aid of complete fertilizers in contrast with a scant weedy growth on the unfertilized plot. The two locations are only two feet apart. Ohio Experiment Station.

that a casual observer would scarcely notice them at all. Yet they are ready, when the particular elements of plantfood on which they thrive are supplied to them in generous measure, to spring promptly and vigorously into growth and to multiply and thicken and take possession of the ground upon which they previously had been able to maintain but a feeble existence.

"Under this treatment of orchard soils, it is pleasing to note the ready and generous response of the trees in increased growth, vigor, and abundant fruitfulness—a response which enables orchards occupying steep, rough, difficult tillable land to compete successfully with orchards under annual cultivation with cover crops where tillage may be practiced with ease and satisfaction."

A more specific deduction as to the value of fertilizers comes with the explanation of the kind used; and the

Good physical condition is essential if a soil is to give its best results. Nothing so makes or mars a soil in this regard as the presence or absence of lime and humus. These must be present if the soil is to have a chance. Only after we have secured good drainage, natural or artificial, good physical condition, made the best use of farmyard manure, and studied the wants of our soils and crops, can we hope to get the maximum results from the use of commercial fertilizers. They carry plant food, which may be badly needed, but the plant cannot secure it unless the soil is in a state that will allow of good root development.

Nothing is of more importance to a complete home than an orchard of fruits, and it is within reach of every home maker to have an orchard of a few trees of almost every kind of fruit.

Fruit Tree Blight

By F. H. SWEET

Twig blight, as it is commonly called, affects principally pomaceous fruits, such as pear, apple, quince and seldom drupeaceous fruits, as peach, cherry and plum. Only in recent years has it affected apple, although it is an old pest of pear trees.

Blight is a bacterial disease, and is transmitted from one tree to another by this bacteria being carried from blighted limbs. Possibly bees and other insects are agents for blight distribution. Our experiment stations are now endeavoring to determine the principal distribution factors with the hope that such information will assist in control of the work. In the early spring months, blighted limbs which have been allowed to remain on pear and quince trees over winter, exude a watery substance which contains these bacteria. Bees and other insects coming in contact with these germs transmit them to the fruit blossoms, producing what is commonly called blossom blight. Later, biting and sucking insects, in piercing the tissues of young twigs, transmit the disease to these parts.

It is believed by plant pathologists that the bacteria do not live over the dormant season in blighted wood of apple, but only in diseased wood of pear and quince.

This suggests the remedy of carefully cutting from pear and quince trees at beginning of spring, all diseased wood. If this is thoroughly done there will be little chance for the spread of the disease. After growth starts some blight will undoubtedly appear on these trees, and it should be promptly removed and burned. Commercial pear growers go over their orchards every week or ten days throughout the season, removing blighted wood. Thorough work of this kind will prevent serious infection. In removing twig or branch always cut well below the diseased or blackened wood. Pruning tools should be sterilized after each cut and the wound also treated. If this precaution is not taken there is danger of transmitting the disease by means of the tools, should they come in contact with blighted parts. Corrosive sublimate is a good disinfectant. Use one part to 1000 parts water. A

sponge or cloth saturated with this solution can be used in treating the tools and cuts.

It is impractical to try to remove blighted twigs from large apple trees during the growing season, where a majority of the twigs are affected. On young trees, however, it is possible and should be done. There is not the same danger of serious injury on apple as on pear trees because the infection seldom extends beyond the current year's growth and seldom down into the larger limbs, as it does on pear. The dead twigs can be removed during the regular winter or spring pruning. There is little danger of the death of apple trees from blight.

Notices in the public press have stated that blight could be prevented by spraying. This is erroneous, as spraying is not of much value in controlling this disease. Some protection is given if a strong Bordeaux mixture spray is applied just as buds are swelling. It gives a coating to the exuding substance containing bacteria, and to some extent protects insects from carrying these bacteria.

Quality of Apples is Affected by Time of Picking

Varieties Differ in Date of Ripening

The proper time for the gathering of winter apples varies in this section from the first to the twentieth of October, the exact date depending upon the variety, the character of the season and to some extent the disposition that is to be made of them, says Farmers Guide. If they are to go into the cellar of the grower for his own family use, or to nearby consumers they may be allowed to become slightly riper than they should be if they are to be shipped to a distant market. This is true because the less ripe fruit is better able to withstand the rough handling to which it is liable to be subject in the long journey. The quality will, doubtless, not be so good when it shall have become ripened, as it would have been had it been allowed to remain longer on the trees, but this is a condition which the distant consumer must expect and accept.

Varieties differ in their time of ripening. The grower must learn to recognize the proper time with each variety. This knowledge he may get from his own observation and the experience of others. Of a number of things that may be considered perhaps the most significant is the readiness with which the stem of the fruit parts from the spur that bore it. If the separation at that point is easy when the apple is raised so as to bend the stem, it is high time that the fruit should be gathered even for home storage. This condition is likely to come some days earlier in a season which has been comparatively dry than in a wet one. Unless there is available help to pick the entire crop within a very few days, gathering should begin early enough so that the closing may come shortly after the time indicated, because much delay is at the expense of long keeping qualities, and a storm may put large quantities of fruit on the ground in a damaged condition.

While this rule is applicable to most varieties of winter apples, there are some with which it must not be used. We refer to those which cling to the tree until very late in the fall, some of them even holding on until the next spring. They are usually excellent keepers, even in ordinary cellar storage. These varieties should be the last to be gathered but should be picked before the time of heavy freezes.

A fair, dry, cool day, such as is common in October, is ideal for apple picking. We feel it to be imperative that for successful long keeping, the apple must not be picked, handled or packed while it is wet either with dew or rain. It is possible than an apple will not bruise any easier while wet than when it is dry, but we do not think it probable. We are sure that wet fruit placed into a tight package is seriously handicapped in its efforts at long keeping. The unpicked apple quickly dries under favorable conditions and not much time is ordinarily lost in waiting for it to do so. That the day be cool is not so imperative, but it is a desirable condition. It is certain that an unduly hot day is to be avoided.

With some varieties it is sometimes advisable to pick from the same tree on two or three occasions a few days apart. With those which run rather small, by picking the larger and usually riper specimens only the smaller ones may make a slight gain in size before it is necessary to gather them at a later date. Of those which color evenly, the less colored ones often take on deeper hues if they are allowed to remain on the trees for a time after the brighter ones are removed.

Every Day Views of "Phosphate"

W. H. BOWKER, Boston, Mass.

Away back, more years than I care to recall, when a boy on the farm, I helped my father drop "phosphate" in the hill to give corn a start. I was told that phosphate made corn grow because it possessed certain chemical or mystic properties; but from a study of the label and of the manufacturer's pamphlet, little was revealed to me. It was called "Phosphate" for short, but it was branded "Nitrogenous Superphosphate of Lime." That name was a poser. As expected, it had its psychological effect on the imagination. I stood in gaping wonder at it. The phosphate gave the corn a start all right. That phenomenon and the name gave me a start. No prestidigitator ever aroused my curiosity more. I wondered what nitrogenous superphosphate could possibly be and just why it gave corn a start. I am still wondering, for science has not yet revealed the whole secret.

At that time there was much opposition to the use of "artificial manures," the opponents, like those of today, urging that they were stimulants—that they would ruin the land and the farmer who used them. Nevertheless farmers persisted in their use, for they had discovered that they gave crops a start, that they hastened maturity and improved quality. Remember, in those days fertilizers were principally dissolved bone, carrying about two per cent. of nitrogen, ten per cent. of soluble phosphoric acid and no potash. The wise teachers of chemistry—Johnson, Goessmann, Stockbridge and others—knew that the reason why they hastened maturity and improved quality was that they possessed the needed plant food elements in easily assimilable forms. Being true scientists and wise counselors, they urged their use. They also recognized the need of proper inspection, and moved for stringent inspection laws which would weed out the fakes and fakers and protect both buyer and seller. These laws were a boon to the industry.

Hints to Grape Pickers

Pick only when the grapes are dry, and they will not be injured if they stand in the tray for 24 hours or even 36 hours before trimming or packing. If, however, there are any bad berries to be culled out, the quicker this is done after picking, and a short time for wilting, the better.

As the clusters are clipped from the vines, with a sharp knife or a keen pair of scissors used for that purpose, lay



Concord Grapes

them down in the trays, with the stem end standing upward, and one tier of bunches after another, until the tray is even full. It should never be heaped, as the lower tier may, if well ripened, be injured by too much weight.

If it becomes necessary to empty the crates, before the grapes are handled by the clippers and packers, let the clusters be laid on a smooth table, bunch by bunch, carefully and in tiers, not to exceed three or four clusters high, the same as they were in the picking trays, with the stems standing upward, and then they can be handled with the least possible injury, by being taken up in regular order, by their stems.—F. H. Sweet.

Fruit Bud Forming

Often the question is asked in what time of the year do such and such trees and vines form fruit buds?

Strawberries develop fruit buds in fall for the next year's crop. Raspberries, blackberries, grapes and almost all of what are called small fruit form fruit buds in spring. Apple trees and almost all other trees form fruit buds in the fall, mostly during the months of July, August and September, owing to the season. In dry weather they will form buds earlier and often, in case of wet weather change fruit buds, when not fully developed, into leaf buds.

If trees are injured by rabbits, mice, borers and by too deep plowing close to the trees, thus cutting many surface roots their strength is checked and their vitality injured, which causes the tree to form too many fruit buds. A tree very badly injured may leaf out in the spring, bloom very full, and may half mature the fruit and die.

The head is a house and there is a tenant there who by all means should be a good tenant, one that is careful in all things, wise, prudent, cheerful, prayerful, one who keeps things sanitary and is never intoxicated. Everyone will say: "That's a fine tenant." Some tenants stay a hundred years. How is your tenant?—Albert E. Vassar.

When preparing the soil for raspberries and blackberries work in thoroughly until it is mellow like ashes.

Co-Operative Selling of Grapes

Written For Green's Fruit Grower
By HARRY R. O'BRIEN

Four fundamental co-operative principles applied in the proper way has been responsible for the success of the oldest co-operative fruit marketing association in America, the Council Bluffs Grape Growers' Association, of Council Bluffs, Iowa. These principles are that the members have learned to grow better fruit, they have standardized their product, they have established a trade mark and they have been educating the consumer to look for their label.

The association handles its business thru a paid permanent manager, whom they pay a salary of \$1,800 a year, plus a small commission on the business he does for them. It owns its own warehouses in Council Bluffs, to which all fruit of the members is delivered. Here it is carefully graded before it is packed and shipped out.

Peter Peterson, the present manager, buys from each member the grapes and other fruit as they are brought in, paying such prices as the market can afford. He then locates the markets for the fruit and charges 10% commission for handling, which is the usual rate of the commission men. The difference is that after the expenses are paid and the stock-holders who backed the association are paid interest on their investment, there still remains about 4% which is turned back to the growers.

It is the business of the manager to know just where there will be a demand for the grapes and other fruit handled. Most of it goes to the northwest. Some gets as far away as Seattle, San Antonio and Charleston. In many places, the association employs special agents to handle the business.

Early in its history, a trademark was established which goes on every basket of grapes sent out by the association. This has come to stand for standardized quality wherever it is seen and the members, thru their manager, are careful to see that this standard is maintained.

That this association is a success is shown by the fact that its members did a business of about \$77,000 in grapes and small fruit last year. In 1915, which was an unusually poor year, the total business was \$66,617.36. The average business for the past 14 years from 1903 to 1916 has been \$71,000. In 1907, the biggest year in the history of the association, \$120,000 worth of fruit was sold thru the warehouses in Council Bluffs.

This organization was founded in 1891, when the large number of grape growers around Council Bluffs were forced to organize to protect themselves from commission men who were swindling them. There were just 20 men in the movement and the capital stock was \$1,000. These men owned about 400 acres of bearing fruit, 100 of them being grapes. To-day the organization has grown to over 150 members and controls about 1,100 acres of grapes, in addition to other small fruits.

In planting fruits for commercial purposes the object is so diverse from that when the desire is to have a succession of the best for home use, that some of the varieties that would be least esteemed in the family are the most profitable for the public market. Moreover, the aim should be, not to have a large number of varieties but a very few of those which will bring the most net profit for the labor, time and capital invested.

All plants that produce their bloom on any shoots growing from last year's growth, can be cut back during the winter and early spring better than at any other time.

Fruit by Parcel Post

F. H. SWEET, Va.

Apples are probably our most important fruit crop, and lend themselves readily to parcel post marketing. There is a promising field for developing marketing of fancy eating apples direct from producer to consumer, and every grower should ascertain for himself if he can profitably make this system supplement other methods of marketing. It is necessary, of course, that satisfactory markets be available within a reasonable distance and that local conditions be favorable.

Only varieties of well-known merit for eating purposes should be marketed. They should be all well-grown specimens, of proper shape and size for the variety, of normal color, ripe enough to eat (unless the customer wishes to hold them), but never overripe—that is, they should be marketed in just their right season. They should be sound, clean, free from damage of worms or other pests, disease, skin puncture, or other defects.

The Observations of a Farmerette

By VERNON RECORDS

In these trying days of war, when every one needs help and encouragement, we look to men and women—who can do things. When people are brought face to face with cold facts they can get down to first principles fast enough. We don't need advice so much as we need help. The farmer, or farmerette, who rolls up their sleeves and "wades" into the work. They are the real heroes of the hour; the most useful members of society.

With this idea saluted away in the back of my head, I interviewed Mrs. Grace Jackson, widow and farmerette.

"Have you any message, Mrs. Jackson, that through the columns of some widely circulated farm paper, we can give to the American people. These are trying days. The facts are before us, there will be a food shortage. You are now a successful farmer; tell me what you did to accomplish all this?" I inquired.

"The most trying moments of my life," explained Mrs. Jackson, "was when I rigged up a corn-cultivator, from the running gears of an old mowing machine, and sold my cookstove to keep my son in college. When I tackled farming—I didn't stop to powder my nose! Farming gives one a sharp appetite.

"We have had things in such lavish abundance that we never have studied economy. Always trusting that there was more where the last came from. Now we are facing the hard facts. But oh! what a change the war has brought. I am like a squirrel," laughed Mrs. Jackson, "always hoarding away goodies. It is some satisfaction to know the larder is amply provided for; and I never let that satisfaction grow less.

"Plant—plant, and keep on planting, has always been my motto. I have tried to be a useful member of society—and a worker. I believe one should work when they are young. We shall all be a long time dead! And our mission on this earth is to do all the good we possibly can—and the least harm. To be a successful agriculturalist one must have plenty of willpower, and work along practical lines.

"In these progressive days, failure on the farm is a

plain case of laziness. A farm is no place for one, whose wishbone is where their backbone ought to be! I made this farm what it is to-day—and I'm satisfied—to keep on working. And now they are calling on the practical farmers, when any thing needs to be done. I never get discouraged, I haven't time.

"When my husband died, my relatives gave me barrels and barrels of advice. I stuck to the farm despite their protests. Mother earth is the creator of all food; and food keeps the spark of life alive in our bodies. That's why I felt so confident on this farm. I am getting old; but so long as I can get one foot before the other, I shall work, and make our home a garden spot—and a joy forever.

"Any farmer in America can make his farm productive, by the application of practical business methods. Don't rob the farm. Build up the soil with lime and manure, and commercial fertilizer. Look at my garden for instance. I had a mighty poor garden last year; yet I sold over three hundred dollars worth of vegetables.

"The old style method of irrigating a garden by flooding it is a thing of the past. I have 'whirly-gig' sprinklers—artificial rain—that is more satisfactory. And then while the gasoline engine is operating the pump, it is also recharging the storage batteries for the light plant. No farm is up to date, without its own individual light plant. Electrical power—and will power is the main requisite on the farm.

"I owe my success, to the helpful farm papers. I am constantly on the lookout for practical ideas. In these high pressure days, one must have the last word in improved farm machinery. To keep abreast of the times, one must be efficient. Preparedness has been the 'live wire farmers' motto for years. Now we are subjected to the supreme test: of feeding the world. How confident we are, when we fill the storage tank with gasoline—on our three thousand dollar reaper. There is no uncertainty; we will succeed.

"This year I had a surplus of seed potatoes. My neighbors had none. Several of them had no money to

purchase any. Did I ship my potatoes to the market, and secure fancy price—I did not. Every neighbor received all the seed potatoes they required. They will pay me in the fall, after they dispose of their yield. I know they will pay—for I have cast my bread upon the waters before."

Mrs. Jackson paused in her conversation, to give some directions to her ranch foreman. The foreman nodded and departed.

"He wants to know if I want the automobile made ready, to attend a party in a neighboring hamlet twenty miles away, to-night." Mrs. Jackson smiled. She read the question I was about to ask.

"Of course we shall go. I shall never miss an opportunity to attend a social gathering, where I can renew acquaintances, and make new friends. And the children: I want them to enjoy life to the utmost while they can. The task the next day is made considerable lighter, when we recall the delightful time we had, and the friends we met and chatted with. I believe the greatest blessing is a true understanding, and friendship with one's neighbors.

"Life is short—too short. We must treasure every minute, and fill it full to the brim. I will be sixty years' old in a few days. There I have told you my age! Looking back over the happy years I have lived on this farm, I'm thankful my lot was cast here. If we could look into the future one century, what a blessing it would be. No doubt farming will be done entirely by electrical driven machinery. The new-fashioned methods, we to-day believe up-to-date, will be discussed by our children—as crude agriculture implements.

"There was a time when the farmer was despised; but to-day the pulse of the Nation, beats on the farm. A farmer that don't practice economy—will last quick on the farm. That is why we are so confident to-day. The bone and sinew of the American nation is fortified behind his up-to-the-minute agriculture implements. How long the war will last, no one knows. The farmers are prepared."

Peach Growing

Written for Green's Fruit Grower
By F. H. Sweet

Peaches have been grown since colonial times, but there were few commercial orchards until within the past 25 or 30 years. Before that time almost every farm orchard was considered incomplete without a few peach trees. At the present time the farm orchard has largely disappeared. We believe that more attention should be paid to the culture of this fruit. We know now how to control most of the enemies of the peach. Formerly, sunlight and good air circulation were depended on to protect the fruit from disease. Now we use the spray pump and with its aid produce fruit of fine quality.

In selecting a location for a commercial peach orchard one should get as near as possible to a district where peaches have succeeded commercially. That orchards have succeeded commercially in certain sections indicates that there are more favorable conditions there than elsewhere. All other conditions being equal, the orchard should be as near a railway station as possible, and in a community where labor is abundant, but natural advantages of site and soil must be given full consideration.

The peach thrives best in an open, porous, well-drained soil. Many orchards have failed in recent years because this factor was not understood. While a sandy soil is generally considered ideal, a heavy clay soil made light and porous by deep tillage and an addition of a plentiful supply of vegetable matter will produce wonderful crops and maintain the orchard in a vigorous condition for many years.

Almost any soil is open and porous when it is first cleared, but clay soil soon becomes heavy and tight after a few years of cultivation, unless care is taken to keep up the supply of vegetable matter. This fact accounts for the failure of many orchards set in old land.

Since clean soil and thorough and frequent spraying is usually very necessary to secure large annual crops, land that can be tilled and sprayed at the least cost should be selected. This factor, however, is outweighed by others in certain sections, where very profitable orchards are found against steep mountain sides. Here the land may be covered with stones, but is rich and the conditions relative to air circulation and sunlight help to keep the crop free from disease without so many sprayings as are required on less-favorable locations.

If an old field is selected for the orchard, the ground

should be deeply plowed and subsoiled. Where the land is new or too rocky, subsoiling is not practical, but dynamiting the holes is often resorted to before planting the orchard in the fall. On the rich land the trees should be planted 20 to 25 feet apart each way, or 18 to 22 feet in equilateral triangles. On poor land these distances may be slightly reduced. Many orchards have been planted closer than advised above, but cultivation, spraying and harvesting are very difficult, and when disease once gains a foot-hold in an orchard planted too closely together its eradication or control presents a very difficult problem. Where steep lands are planted, the rows can follow the contour of the land 20 feet apart, with the trees from 18 to 20 feet apart in the row.

The holes for planting should be dug 14 inches deep and 18 inches across, the larger the better, as the young root system is then able to freely spread in every direction—thus giving the tree a firm base.

Strong June buds 2½ feet up, or one year trees 3½ to 5 feet high, with a strong and well-placed root system should be selected for planting.

Fall planting is usually the best, and this is especially true in rocky lands, or newly cleared land. In such soil it is difficult to get the earth packed closely around the roots, and if the spring planting is followed by an early drought, many of the trees are likely to die or to be badly dwarfed in their growth the first season.

Before planting, all broken and straggling roots should be pruned so as to leave the root system well balanced, and not over six inches long on one-year trees, or three inches on June buds.

Most growers prune the trunk to a straight stem, with all side branches removed, and the stem cut off 12 to 18 inches from the ground. This method of pruning off all the side branches can be carried out on the peach because at the base of each side branch, on a one-year tree, there are two buds which produce new branches. Very low heading is now almost universally practiced. This enables all the operations connected with pruning, spraying, thinning and picking, to be done with the greatest possible economy of time and materials.

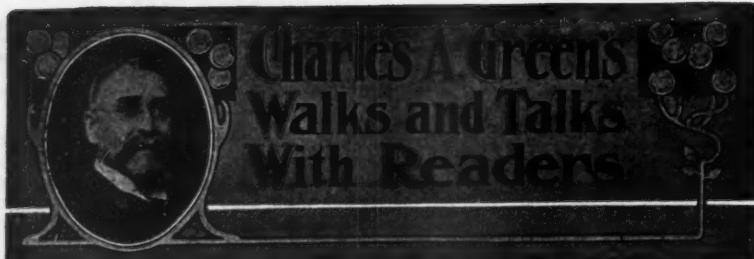
In order to control brown rot and scab, each variety with a different ripening period should be sprayed at a different time, or about one month before it is to ripen.

An early maturing variety does not need as late cultivation as a late variety, and the picking and packing is greatly facilitated when each variety is planted in a compact block.

Under proper conditions peach trees make a strong, vigorous growth, and are large enough the third year to bear a paying crop of fruit.

Editor Green's Fruit Grower: I noticed in the July issue of Green's Fruit Grower an account of a clergyman placing manure directly in contact with the roots of newly planted trees. Nearly all men of fruit and shrub growing experience agree that this is something that should never be done as there seems to be something of a caustic nature in "green" or "raw" manure that has a very injurious effect when coming in direct contact with the roots of nearly all growing plants and trees. While nearly all growing plants, trees and shrubs seem to thrive in and appreciate good soil, we need to learn that it needs to be soil and not manure. A good practice for the home orchard and fruit garden is to apply a heavy coat of barn-yard manure and plow or spade under to a good depth and then raise a crop of intensively cultivated vegetables on the ground, such as potatoes and beets. Peas and beans are especially good as they have the advantage of not removing much plant food from soil. This has the effect of incorporating the manure in the soil where, through the various changes the manure has undergone, it ceases to be manure and becomes soil, thus it is fitted for the retention of moisture in the humus content and sets free the various plant food elements, which makes them at once available for the newly planted tree or shrub and enables it to at once get a "root-hold," which is very essential to the growth of the tree or shrub. Some trees and shrubs may be planted in the fall and some in the spring after the vegetable crop has been removed.—E. E. Palmer, Iowa.

Self-confidence and self-conceit are entirely different. The former is a necessary attribute to success. It means confidence in oneself to be equal to the emergencies which arise or to do the duties which will be demanded. It implies faith in a divine power which gives to each man a place and a work in the world, and the power to fill that place and to do that work.—F. H. Sweet.



The Necessity of Knowing the Names of Fruits

Having spent nearly all of a long life among fruits and knowing as I do the names of thousands of varieties of fruits, I have to confess that there are yet many varieties that are unknown to me, many varieties which I could not identify if you were to ask me to do so when placing a specimen in my hand.

This teaches how difficult it is for the novice, who has not spent even months or a year in association or in studying varieties of fruits, to have much of any knowledge of varieties. Hence it is that the great mass of the people of this country, which is the greatest fruit growing country in the world, scarcely know one variety from another, except in being able to recognize such common varieties as Baldwin, Greening or Spy apples, or the names of a few plums, peaches, grapes and other small fruits.

I am led to write on this subject by the mix-up which has occurred this season in regard to the Champion and Carman peaches. I went into the Rochester market and saw some good-looking white peaches with red cheeks. On inquiry I was told that these were the Champion peach, of which I am very fond, considering it of good quality and a freestone peach. On testing these peaches at my home I found they were not Champions but clingstones, and were of poor quality. On complaining to the grocer he said they were Carmans and not Champions.

"No," I replied. "I know the Carman, which is a freestone and a large handsome peach of good quality. I know the Champion and have found that also a peach of good quality and a freestone, though not so large as the Carman."

Later I hear complaints from New York city and other large centers, where it is reported that the commission houses and other buyers of peaches are not satisfied or pleased with the Champion peach as grown this year. My opinion is that they like myself have been deceived, that instead of buying a Champion peach they have been buying an inferior variety that was sold for the Champion. The Champion is an early peach, ripening earlier than Crawford's Early.

Speaking of varieties, how few there are in this country who are familiar with the Bosc pear or the Sheldon, which have no equal in quality among pears, and which bear abundantly and are ever in demand in the market at good prices.

The Bosc is superior to the Sheldon in being of more attractive shape and color. These two pears are about equal in quality. I can grow as many bushels of Bosc pears as I can of Bartlett or Kieffer, and almost as many as a similar sized apple tree would bear of apples. My Bosc pear trees yield fruit abundantly every year. While it is not a strong grower in the nursery, it makes good growth at Green's Fruit Farm.

Young Faces for Old People

What is it that makes the face look old? It is care, anxiety, worry, fretfulness, pain, disease, weariness, nerve strain. I find myself looking so serious, so intense, I am trying to form the habit of smiling artificially if I cannot think of something pleasant to smile about, so that the smile wrinkles on my face will increase rather than the serious lines. Our faces do not grow old while we sleep, therefore if you would look young and are advanced in years take an hour's nap every day after dinner. If we could see ourselves as we look going down the street we would be alarmed at the serious expression upon our faces. I have studied the faces of others on a crowded street and have found many of them absolutely repulsive with anxiety or nervousness. You would almost conclude by the expression of these many faces that the people were going to their doom, whereas

probably they were simply on a shopping expedition.

It is not difficult to smile, and yet smiles are rarities these days. It is impossible to think happy thoughts without having a happy face. It is not difficult to smile artificially. All we have to do is to spread our mouths when partially opened, showing our teeth. This act will pass anywhere for a smile, even on the stage or in the pulpit. Our Creator did not intend that life should be a grind, and yet if we were to watch the expression on the average face we would conclude that life is made up largely of sighs.

Are You Equal to One Day's Work?

I doubt if there are many people overcome with one day's work. When you are discouraged and feel as though the burden you are carrying is too heavy and that you are being crushed, pause and ask yourself this question: "Am I able to do to-day's work?" You will find in most instances that the answer is: "Yes, I can pull through to-day. It is to-morrow and next week and next month and next year's work that disturbs me, benumbs me, making me feel like one carrying upon his back a mountain." Surely there are times when we should for the moment look ahead and see whether we are drifting, but to keep our minds continually on the work of tomorrow is a mistake, for it lessens our opportunity and ability to do the work of to-day. How much vitality is wasted in worries about the difficulties of to-morrow.

Possibly there will be no to-morrow for you or me. In most instances the calamities of the future are never realized, but fade away like the mist hanging over the valley.

"Build a little fence of trust about to-day, Fill it full of loving deeds and therein stay. Look not through the sheltering bars upon to-morrow.

God will help thee bear what comes of care or sorrow."

Larger Seeding of Grain

An experienced Monroe county farmer told me recently that several years ago his father sowed three bushels of oats per acre by mistake. He thought the oat crop could not amount to much with such a heavy seeding, but to his surprise he secured one of the heaviest yields of all his experience. Since then my informant has been sowing three bushels of wheat per acre with good results. His theory is that grain does not branch out so much as it did in the early days when our soil was full of humus, therefore that more seed is needed than in old times, not only of oats and wheat but of rye, barley, timothy, clover and other seeds.

My informant said that this spring his wheatfield looked as though the crop would be a failure, but now it promises a yield of 45 bushels per acre. I asked if this was caused by branching out of the wheat plant near the roots. "No," he replied. "It looks as though the seed which did not come up last fall came up this spring and has helped to make a full crop." This farm, rather low lying, was formerly leased to a nursery firm who tile drained extensively, which is one reason for a large yield during a notably wet season.

Grape Vine Growing on Stump

I am asked whether the tall stump of a tree six, eight or ten feet high can be used successfully for a grape trellis. My answer is, Yes, such a stump of a dead tree will not only make a serviceable grape trellis but will be an ornament if well located. I saw the tall stump of a tree on the Genesee river recently. It was entirely covered by a wild grape vine and was a beautiful object. I would suggest that branches from another tree be nailed onto this tall stump in order that the grape vine may have a better hold for its tendrils than the stump would otherwise provide.

In a Rut

The tendency of humanity is to get into a rut. By the word rut I refer to the tendency of mankind to do as others are doing, or to do as the individual himself has been doing, without the ability or inclination to change methods, to change crops or even possibly to change locality. The word rut is a forcible one since it reminds us who have lived in the country during the days of bad roads of the time when ruts would make driving exceedingly difficult and sometimes painful. We aimed to keep out of the ruts and desired to do so, and yet it was only a question of time when kachunk, and we dropped into the worn path of vehicles which had made impressions in the mud that had turned to stone through frost, and then we must bump along perhaps for a mile before we are able to get out of the rut.

Looking back upon the old days I can recall when the average farmer depended almost entirely upon his wheat crop for revenue. He planted corn for his live stock both fodder and grain. He seldom had an acre of potatoes and but little barley or oats and no fruit for sale. These farmers were in ruts. I can see now that the growing of cabbage, potatoes, sugar beets, beans, poultry and fruit has taken the farmers of the eastern and middle states out of the old time rut of almost exclusive wheat growing.

Horses in War

The usefulness of horses is not fully appreciated. We have become so accustomed to the strength, docility and utility of the horse we do not spend much time in thinking about his value to men. The average horse is a sufferer in times of peace, for there are many men who do not treat their horses kindly nor with consideration, nor do they know what to do for the animal when he is ailing. In war times the horse is a martyr. Many thousands of horses have been purchased in this country for the war in Europe. They have been lifted in the air by machinery and deposited in cramped quarters in ships. Many shiploads of horses have been sunken to the bottom of the sea. These unfortunate may be considered even more fortunate than those whose lives are spared, thus enabling them to enter the war and be destroyed by bullets or cannon balls. In the early days of the war wounded horses were not given much attention but were allowed to suffer until death came to their relief after being wounded. Latterly horses in the war zone have been treated in hospitals prepared for them, thus many have been restored and have gone back into the fight.

The horse is an interesting study to the student of science. It has been discovered that the primitive horse was not much larger than the cat and that he had four toes on each forefoot and three toes on each hindfoot in place of the solid hoof. The horse is affectionate, forming attachment not only for his mates, but for his owner and caretaker, if he is kind. The horse has a good memory. If you give him apples occasionally he will be continually on the lookout for your coming, anticipating another feast.

Many times I have said, "Do not expect to get rich quick by farming. Fruit growing on an average pays better than farming, but do not expect to get rich quick even by fruit growing." I have lived a long life and have had large experience in business both in the city and country and have this to say to those starting out in life: I have never found an easy way for making money. I have known lots of people who have found easy ways for spending money, but not for making it. He is an unfortunate man who does not know the value of a dollar, or how to make a dollar go as far as it should in purchasing supplies. Farming can be made attractive and profitable.

Cannot Eat It

Gold is held in high esteem. Men have risked and even will risk their lives for gold. Gold has for several years been drifting to this country. Now our gold bins, the vaults of the United States treasury at Washington, New York city and elsewhere, and the vaults of the banks of the country are filled with bags of gold bars ready for the mint. It looks as though we must build new vaults for the storage of gold. Unfortunately we cannot eat gold. We

can only exchange gold for those who prefer it to the grain or other substances which are more serviceable to mankind than gold. You might reasonably assume that having so much gold, more than any other nation in the world, the products of our farms and factories would be reduced in price, but directly the opposite result is attained. The more gold there is the less valuable it becomes, much the same as is the rule with farm products, the more plentiful they are the cheaper they become.

Pears on a Farm

When I was a boy on the farm I found no scarcity of apples. Almost every farmer had apples, but as for good pears there were none upon the homestead farm, and yet my father was known as a fruit grower. In addition to apples we had large and productive plum trees and peach trees which must have been thirty or forty years old, and bushes of the currant and gooseberry. As to pears there was a row of four or five trees vigorous and productive, beautiful to behold, but it was impossible for a hungry farmer's boy to eat them they were so puckery and astringent. I recall my delight in seeing the first really good pear.

I make a plea here for pears on the farm. It is needless to compare the pear with the apple, for the apple is in a class by itself and the same can be said of the pear. Pears can be grown about as cheaply as apples. They differ from apples in every way. Why is it that there are so few pear trees planted by a farming community? My thought is that farmers consider pears more difficult to produce than apples, but I doubt if this is a fact. Pear trees bear at an earlier age than apple trees. Particularly is this true of the dwarf pear which often bears bountifully in the nursery row before being dug. Pear trees bear at varying dates, filling in weeks or months when there are no ripe apples but when there is a profusion of pears.

Selling and Courting

Some one has said that courting is salesmanship. It is true that the youth in preparing the way for a proposal of marriage is something like the salesman, for he feels impelled to put his best foot forward. He must be well dressed, must have his hair cut, must be shaved, must have his shoes polished, must show himself up at his best. He is offering himself for sale, hoping to get the highest market price. He is, or should be, careful and considerate as to what he shall say and how he shall say it. It requires courage to propose marriage. It also requires courage in order to be a good salesman. Salesmanship is something that should be more widely cultivated by the farmer and fruit grower. Here is the weak point of the land owner; he is a hard worker, he does a lot of thinking, but when it comes to selling his product he is somewhat out of his element. He is not a skillful salesman. He does not take the same steps in order to sell his apples, his pears, his peaches, his wheat or his corn as the young man does who is wooing the sweetest girl in all the world. When the ruralist learns more about salesmanship farming will be more profitable.

Nervous Strain

In waiting recently at different depots or railroad stations I have noticed that most of those who were about to take the train exhibited by the expression on their faces great nervous strain. I noticed the same strain exhibited by people taking street cars in the large cities and in crossing streets, also in many people leaving the door of their dwelling for a journey or a trip down town to church or a lecture.

This is indeed an age of nervous strain. It is well that we should be cautioned against doing so many things under nerve strain. We should make a strong effort at least to appear calm under the exciting situations of life. If we do not make this effort we will continually grow more and more nervous later on we shall be in such a weakened condition that it may be unsafe for us to travel alone, but further than this such nervous strain as I have mentioned weakens both mind and body. Nervousness is something of a habit that may be controlled.

In my judgment the *Fruit Grower* is the best paper of its kind in America. —J. H. Lamond, Zion City, Ill.

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HANDLING ORCHARD TO ADVANTAGE

Director Van Alstyne discusses in American Agriculturist principles underlying management of small farm orchard

Several points of orcharding are fundamental and of interest to farmers, writes Edward Van Alstyne, New York state director of farmers' institutes. Either the orchard must occupy first place and everything be subservient to it, or the crops be the main thing and the orchard incidental. If the former, then such treatment must be given the soil which will be best for the trees. Only such crops must be grown, if any, which will have least ill effect on the orchard. If the latter, then the trees are a nuisance and would better be taken out. They will prevent profitable crop production, and the crops, such as they are, will prevent the growth of the trees and in consequence profitable fruitage.

If the land needs underdraining the trees cannot thrive, for as with human beings, wet feet will be productive of disease and death. While grass crops will do fairly well on land with a high water table, at present prices for seed, labor and fertilizers, a farmer of moderate means cannot afford to crop wet land. He is working under a sure and heavy handicap.

It has been thoroughly demonstrated that apple trees do not need lime, and that in a majority of cases commercial fertilizers are not profitable on orchards, even when they pay well on shallow-rooted crops on the same character of soil. Both may be of indirect benefit in growing larger cover crops to turn under.

The pastured orchard is not conducive to long life in the tree, nor to most abundant or largest and longest keeping fruit. It is an economical way of caring for and fertilizing the orchard, particularly if live stock are fed a rich grain feed while on pasture. The fruit will be more highly colored and will mature earlier. There will be less injury from insects, because the live stock in eating the falling, worm-infested fruit will also eat and destroy eggs and larvae. There will be less disease, because the foliage will be more scanty, resulting in more opportunity for circulation of air and penetration of the sun's rays.

I am writing from experience of 40 years, and in spite of the advantages, I bear witness that the more shallow rooting and less vigorous growth and shorter life with the other disadvantages mentioned, put the pastured orchard in the second place. There is no better test of the work of a practice than to note its general adoption or rejection by practical men. I note in passing through the orchard sections of New York, where 20 years ago the sod orchard was common, now it is the exception. The difference in favor of those cultivated is so apparent that "he who runs may read."

After an orchard has been in sod for 20 years it is a dangerous thing to plow it. Many large roots will be near the surface,

These will be broken off and serious injury will result. If the plowing is done very shallow it may have a stimulating effect and the orchard take on new vigor. The scriptural injunction to "dig about, and dung" the barren fig tree is good advice in orchard practice to-day.

The orchard being more than 20 years old and in poor condition it will need all possible available fertility, including manure and tillage, to make it profitable. To break up and reseed would be expensive and likely productive of more harm than good. To attempt to grow a profitable crop between the trees would injure them, and to secure such a one would be well nigh impossible. There is not only the question of shade to consider, but the fact that the soil is full of tree roots, needing all the water and fertility available.

HELPFUL AUTOMOBILE HINTS

Keep your motor clean—It will repay the extra effort. A spray pump run by electricity or compressed air is good but an oil gun can be used if a smaller spout is substituted. The dirt can then be worked down with a long handled brush. If a sprayer is not available a tin can may be used to hold the liquid, but the brush will not be able to reach every part reached by a sprayer.

Nothing but kerosene should be used for this work. It cuts the grease and dirt quickly and does not evaporate before you can work it down with a brush. It gives a disagreeable smell when engine is first heated up, but this soon passes away.

Gasoline is too dangerous to be employed in this work. You may think you have waited long enough before starting your engine, but there is always danger that some of it may not have evaporated. A flash of flame—and your car may be a total loss.

The dirt collected on the outside of the engine is not merely an eyesore. It gets into the bearings and causes loss of power and wear. This shortens the life of the engine. If the dirt is removed regularly this wear is prevented, and the car will last longer.

This is the weather when you should NOT deflate your tires. Most drivers imagine that hot weather and particularly hot sun will cause a dangerous increase in the pressure of the tires, so they let out a little air. This is bad practice as there is no danger of such excess pressure. On the other hand they make the tire too soft, so that it bends more than usual, heating it and doing more damage than if it had been left alone.

If you have no silo and need one, its construction ought not to be put off. Silos were never needed so much as they will be this coming winter.

I rely on the "Fruit Grower" for valuable information.—Mell D. Gould, Me.

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AND ASSOCIATED COMPANIES**

One Policy

One System

Universal Service



OBSERVATIONS IN AN ORCHARD

Continued from page one

and in one instance, billiard tables for the men to pass their evenings and Sundays.

The first plantings are generally made on the highest part of the company property, which usually ranges in elevation from 2000 to 3000 feet. They are then extended down the slopes of the mountain until the frost line is reached. Peaches were planted almost exclusively up until a few years ago, but now apples are gradually taking their place. Other fruits are not being extensively planted, although some orchardists are setting some plum and cherry, while one in particular is making a handsome profit on blackberries, which seem to be particularly adapted to this locality. The varieties of peaches are so selected that the harvest extends from the middle of August until October, and generally include the following: Carmen, Champion, Alberta, Smock, Bell of Ga., Bilyou, Yellow St. John and others, while for apples most reliance is placed on the York, Stayman, Winesap, Paragon, and Grimes, with emphasis on the Grimes.

Methods of orchard management differ with the different orchardists. Intercropping is generally practiced, especially when the trees are young, as the soil is so fertile that an annual growth of six feet is common, but as the trees get older the soil is generally cultivated from the middle of April until the middle of August, and then sown to some cover crop such as soy beans. An ingenious device known as a "Cross-eye plow," is employed for cultivating in the tree row. It is a one horse, one shovel affair, with the shovel set to one side of the line of pull, thus allowing the plowman to cultivate between the trees and up to them with perfect ease.

When the spraying campaign starts, the orchardist probably faces one of his most difficult tasks, that of reaching the trees on steep slopes, the same ranging anywhere from 20 to 50 degrees. In most cases, however, roads are built following the contour of the mountain, with twelve or fourteen rows of trees between each two roads, so that six or seven rows can be sprayed on either side of each road and thus eliminate all unnecessary driving. The borers and curculio are by far the most destructive insect enemies of the peach, while the brown rot and shot hole fungus are its common diseases. Two sprayings are considered sufficient for adequate control during a normal season, the first being given just as the shucks fall, and the second about four weeks later. Self boiled lime-sulfur is used for both applications, formula 7-7-50, and boiled just three minutes, to which is added three pounds of paste arsenate of lead per 50 gallons of liquid for the curculio. It is a singular fact that San Jose scale never bothers the peach orchards, some growers attributing this to the self boiled applications which they believe kill the young scale before they become attached to the twigs and branches; nevertheless it is difficult to find even small infestations of scale in old neglected apple orchards, which from all appearances have never seen a spray outfit or a pruning saw. The borers are dug from the base of the trees twice a year, once about the first of June and again about the first of September, the cost generally running about five cents per tree per year. Several types of tree protectors have been tried but in all cases they have failed to control the insect to any great extent. For apples the spray calendar is about as follows: Dormant lime-sulfur every two years, "For general sanitation," as one orchardist put it. Scab, spray as the blossoms show pink with lime-sulfur 1 to 40, the same repeated with arsenate of lead added as the petals fall for codling moth and scab, and this same application about three weeks later for the same pests.

In picking, packing and marketing, however, is where this section demonstrates its superiority over many other Eastern fruit sections. During the visit of the writer, the harvest of Carmen and Champion peaches was in full swing, thus presenting a fine opportunity for studying their methods in these operations. The picking receptacle used is the half-bushel, flat bottomed, split basket with double handles, which is chosen in preference to the round bottomed sort, because when filled with fruit it will set on the steep hillsides more securely than the latter. The peaches are

picked when hard ripe, that is, when the fruit has reached its maximum size and color and yet shows no trace of softness, so as to pack and ship with the greatest possible advantage. To attain this end single trees are often given as high as 5 or 6 pickings, the number, of course, depending upon the variety and the weather. When the picking baskets are filled they are carried to the roads previously mentioned, and then hauled to the packing shed in a wagon especially constructed for the purpose. If the plantation is large there are generally three or four packing sheds, the same being connected with each other and the general office by a private telephone system. They are two story affairs, open at the sides and covered with some sort of a roof. On the upper floor the crate material is kept and the crates nailed up, the same being slid down to the packers below thru a chute. On one side of the lower floor is the receiving platform, where the baskets are unloaded as they are brought from the field; then comes the grading and packing tables and lastly the nailing and shipping platform on the opposite side of the shed from the receiving platform. This arrangement insures the minimum amount of handling, the fruit coming in on one side of the shed and going out the other all ready for shipment. The grading is very strict, the least blemish disqualifying a fruit for the first grade, as also does the least softness or inclination to bruise. Georgia carriers are used for the first grade fruits and Delaware baskets for the seconds. In the carriers a 2-1, 2-2, or 3-2 pack is used, according to the size of the fruits, the same protruding from an inch to an inch and a half above the sides of the crate, so that when the lid is nailed on it has a good bulge, thus taking up any looseness in the package. It has been the custom for many of the orchardists to bring expert fruit packers from Florida to put up their best grades of peaches, paying them \$2 per day with board and room and transportation one way. The practice, however, is passing rapidly, as many of the younger and more progressive growers are training their own men to do the packing and are getting just as good or better results than those using the imported men. Likewise it is this same younger class of growers who have inaugurated the box package for apples, and now the best varieties, notably the Grimes, Winesap and Jonathan, are wrapped and packed in regulation bushel boxes, the extra care resulting in a handsome addition to profits.

The marketing for the region is all done thru the Cumberland Fruit Exchange. The exchange is headed by a business manager whose duty it is to handle all sales and transactions, and to see that the fruit is distributed to the best possible advantage. Under his direction are also several inspectors who see that the growers keep their packs up to standard, thus maintaining the reputation of the exchange wherever the fruit may go. Unlike most other exchanges the products of the several growers are not pooled, but each one has an individual label of his own which he used in connection with the Exchange label. This seems to give more universal satisfaction than the pool, for some growers are certain to think that their product is superior in some respects to that of their neighbors.

It would not be fair to the region, if before closing, one did not mention the exceptional opportunities which it affords for hunting and to some extent fishing. Wild turkey and pheasant are the principal game birds and are real plentiful, while among the furbearers the raccoon, wildcat and opossum are found, together with an occasional bear. Rabbits and squirrels are so plentiful as to become pests, at times. Likewise the mountain streams, which are spring fed and as clear as crystal, contain bass and other fish in rather liberal quantities. Taken as a whole, the region is attractive indeed to the sport loving individual.

In conclusion let me say that orchards in this locality and in first class condition are valued at about \$400 per acre, it costing about \$250 to bring an acre of trees into bearing, and this on land that 20 years ago was grown up in brush and could have been bought for 50 cents an acre. But bear this in mind, dear reader, orcharding in a mountainous region of this description is a big man and a big money proposition, but with a proper combination of nerve and enthusiasm, the chances of success are bright indeed.

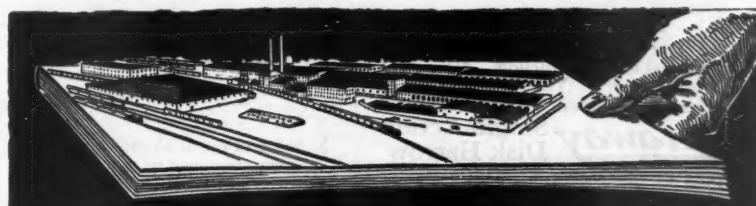
Green's Fruit Grower

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"Your Nose Knows"

La Tuxedo Nose



Peony—King of Flowers

Written for Green's Fruit Grower by Lena Carolyn Ahlers, Ill.

No other flower is so well adapted to general planting as is the peony, and none rival it in gorgeous color, graceful form and immense size. It has well established its right to being called the King of Flowers, as the rose is the queen. The first point in its favor is its extreme hardiness and indifference to alternate freezes and thaws. In the 16 years in which I have grown them I never have had any to freeze out. Even in the most severe climate they require no other protection than that which they provide themselves. Their vigorous habit, beautiful foliage, healthy growth and freedom from all diseases and insects are important inducements in favor of their cultivation.

Many florists say that any flower to be popular and valuable should be perfect in these five points; Beauty of form; Beauty of color; Fragrance; Hardiness and Adaptability as a cut flower. The peony comprises all these, besides, several added virtues. I find that if they are cut just as the color begins to show and put in a dark cool room they will keep fresh a week.

Peonies will grow and bloom in almost

In the autumn do not cut away the dry tops as this is the plants' natural protection. If some fine manure is put around each plant in the fall and forked into the ground in the spring it will be found very beneficial. A little slacked lime dug in around the roots will add to the beauty of the flowers. When digging about the plants be careful and not disturb the buds that are forming just beneath the surface. This treatment will give you an abundance of large, bright-colored flowers. Though not absolutely necessary it will be well to cover the plants the first winter with coarse litter.

The nurseries offer numerous varieties of peonies and it is often hard to make a selection. The following named sorts are the most popular of the standard varieties and will give most satisfaction to amateur as well as professional growers.

White: Marie Lemoine, Duke of Wellington, Duchess de Nemours, Festiva Maxima, Enchantress, Baroness Schroeder, Whitley.

Pink: Achille, Albert Crousse, Dorchester, Eugene Verdier, Model of Perfection, Floral Treasure, Gigantea, Madam Ducel, Livingstone, Humei, Golden Har-



A Clump of Peonies is a Joy Forever

any kind of soil but they like best a well-drained bed or border. Never plant in a place where water will stand on them, as this is almost certain to kill the roots. Also avoid planting directly under trees, near bushes and large shrubs as these will rob the peonies of much nourishment, thereby retarding their growth. Peonies are gross feeders and to do their best need much food. Prepare your ground by spading two feet deep and enriching with well-rotted manure. Be sure to mix this thoroughly with the soil. Never use fresh manure and let none come in contact with the roots. I have found that September is the best month to plant peonies in the northern and eastern states, but in the south and west early in April is better. If your plants arrive before you are ready to set them place them in moist earth in a cool place; here they may remain without injury for a week or more. When this is done be careful to place with the buds upward so if they start to grow they will be straight. When set in the ground the buds should be placed two inches below the surface.

It takes several years for the roots to become established after being transplanted, but each succeeding year adds to their size and beauty. When once planted they should not be disturbed. A clump can not be properly divided without being lifted from the ground, hence "slips" should never be taken from peonies. Many varieties bloom the first season after being transplanted but the flowers are usually small and not true to color. Some plants do not bloom till the third, fourth or even fifth year. I never have watered peonies in the longest drought and they never succumb to the heat as do so many other perennials.

vest, Pauline, Stella, Sarah Bernhardt. Red: Felix Crousse, Augustin d' Hour, Masterpiece, Andre Lauries, Rubra Superba, Messonier, Stanley, Delachei, Mars, Pottsi.

Here is What One Peach Grower will do

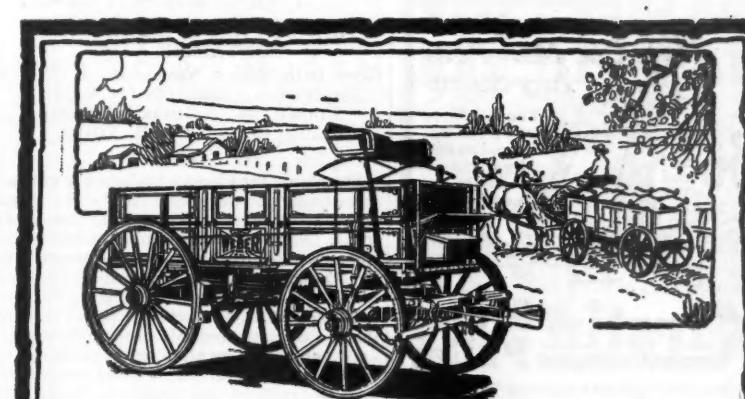
We have made a great many experiments to find out the comparative keeping qualities of peaches picked hard green and those well developed on the trees and we find that the well developed fruit will keep longer under the same conditions than the green. We intend to ship our fruit riper than is the custom with other shippers in this district and expect to get it to market with a better color and have it keep longer after arrival.

Most fruit must be gathered and marketed the day it ripens, but apples wait your time and can be kept nearly the year around. Good ripe apples are the most healthful fruit that can be eaten. The more apples and less meat you eat the better health you will enjoy.

Vegetables and fruits often are stored in quantities in hot, damp, and poorly ventilated bins and under conditions which hasten wilting, fermentation, and decay.

The peach, cherry, plum and pear all susceptible to climatic conditions do well on the hill tops and sides. Apples although harder variety will do as well there as any fruit.

Encouragement of the cultivation of the fine fruits in the home garden will do much toward teaching the buyer to discriminate between the good and inferior varieties of fruits.



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Ask any dealer who carries Columbus or Weber wagons to show you just what we mean by this statement, or write to us for full information. Our wagons have many good features—the International fifth wheel, the sandboard wear plate, link end rods, folding end gate, superior material—more features than you will find on any other wagon. All these help to give the good service, long life and economy that you get with Columbus or Weber wagons. See the wagon or write to us before you buy again.

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NEW STANDARD BASKET AND CONTAINER LAW

Goes into Effect November 1, 1917—Establishes Standards for What is Known as "Climax" Baskets and Covers Small Fruits and Vegetables

Standards for Climax baskets for grapes, other fruits and vegetables, and other types of baskets and containers used for small fruits, berries and vegetables in interstate commerce are fixed by an act approved by the President August 31, 1916. The law will become effective November 1, 1917.

The effect of the act will be to require the use of the standards in manufacturing, sale or shipment for all interstate commerce, whether the containers are filled or unfilled. A large part of the traffic in fruits and vegetables in this country enters interstate commerce. The law relates only to the containers and will not affect local regulations in regard to heaped measure or other method of filling. A special exemption from the operations of the law is made for all containers manufactured, sold, or shipped, when intended for export to foreign countries, and when such containers accord with the specifications of the foreign purchasers, or comply with the laws of the country to which the shipment is destined.

Standards of three capacities are fixed for Climax baskets—two, four and 12 quarts, dry measure. These containers, often known as "grape baskets," have relatively narrow, flat bottoms, rounded at each end, and thin sides flaring slightly from the perpendicular. The handle is hooped over at the middle from side to side. In addition to fixing the capacities of these standard baskets of this type, the law also prescribes their dimensions.

The other standards are for "baskets or other containers for small fruits, berries and vegetables." They are to have capacities only of one-half pint, one pint, one quart, or multiples of one quart, dry measure. Such containers may be of any shape so long as their capacities accurately accord with the standard requirements.

The examination and test of containers to determine whether they comply with the provisions of the act are made duties of the Department of Agriculture and the secretary of agriculture is empowered to establish and promulgate rules and regulations allowing such reasonable tolerances and variations as may be found necessary.

Penalties are provided by the act for the manufacture for shipment, sale for shipment or shipment in interstate commerce of Climax baskets, and containers for small fruits, berries and vegetables not in accord with the standards. It is provided, however, "that no dealer shall be prosecuted under the provisions of this act when he can establish a guaranty signed by the manufacturer, wholesaler, jobber or other party residing within the United States from whom such Climax baskets, baskets, or other containers as defined in this act, were purchased, to the effect that said Climax baskets, baskets or other containers are correct within the meaning of this act. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of Climax baskets, baskets, or other containers, to such dealer, and in such case said party or parties shall be amenable to the prosecutions, fines and other penalties which would attach in due course to the dealer under the provisions of this act."

Note—We would suggest that our subscribers write the Department at Washington for particulars.

When Apples are "Hard Ripe" Rough Handling Injures Keeping

The proper time for picking apples is very important. Too early picking sacrifices color, quality, both for eating and keeping, and also fruit spurs; while picking too late results in loss of keeping qualities and often in loss from winds. The best time for picking most apples, therefore, is when they are "hard ripe," i. e., when they have developed their full size and redness but have not yet begun to soften nor to show the yellow colors, except perhaps in occasional specimens. Apples that develop no red color are picked when they have reached full size, or when occasional specimens have begun to soften or to part readily from the twig. Summer and early autumn varieties, intended for immediate use, are best ripened on the trees, otherwise they should

be picked as above. In many cases, two or more pickings are found desirable and profitable to permit undeveloped fruits to mature.

In addition to picking at the right time, the best kept qualities are secured by avoiding bruises and broken skins and by immediate cooling of the fruit.—Farmers Guide.

Some Good Apples

It is natural to think that a big fine looking red apple ought to be good to eat and most people would be apt to pick out a handsome Ben Davis, one of the poorest of apples judging the fruit entirely by its beautiful color and shape, and not by its name or by its reputation as a fruit of high quality. The best eating apples sold in the fancy fruit stands are Stayman's Winesap, Delicious, Jonathan, Grimes Golden, Spitzemberg and Winesap. These are all superior apples. The apple is the king of fruits and still not one person in a thousand knows when he sees an apple fit to eat.

A Few Varieties and When to Eat Them

First there is the Fameuse or Snow apple, a delightful reddish apple of smallish or medium size with white tender subacid flesh. This apple is better known throughout the country by apple consumers than any of the other high grade apples. It lasts from October to the middle winter.

The Blenheim or Blenheim Orange also known as the Lord Nelson, an English apple of large size, yellow skin, splashed and striped with red is an early winter apple of good fair quality and abundant bearer. It lasts from October to December and later.

Wismar's Desert in color is said to resemble the Spitzemberg, yellow, and the skin striped and splashed with red flesh, mild subacid and of excellent flavor.

Grimes Golden is a beautiful rich golden yellow apple. The flesh is very tender and crisp and is excellent as a dessert, or for culinary use. Ripens in November and with good storage will last until February.

Jonathan is a fruit of the Esopus (Spitzemberg) class. It is not so large nor does it keep so well but it is a great favorite and succeeds everywhere. The fruit is very crisp and juicy. Ripens in November and will in cold storage last until April.

The Esopus (Spitzemberg) is of the Baldwin class and is not planted largely for commercial purposes, owing to its being a moderate cropper and its susceptibility to scab fungus and apple canker. The fruit is tinged with yellow and is crisp, juicy and subacid. Ripens in November and lasts rather late in cold storage.

Wagener has a beautiful bright red color slightly streaked or mottled with whitish dots. Makes an excellent cooker but is especially desired as a dessert apple. The flesh is much the same as the Jonathan and usually a good keeper if well stored.

Winesap is one of the most popular varieties. It is usually well colored being a dark red and of good quality, and is good from January to June.

Baldwin is well known, and this bright red apple needs nothing said in its favor. It is the leading commercial apple in many sections and is at its best for eating in late winter or early spring.

Winter Banana is an excellent dessert apple but is too mild in flavor for culinary use. The skin is bright pale yellow, smooth, tough and waxy. The flesh is tender, juicy and mild sub acid.

If the apple eater and apple buyer were familiar with the superior class of apples apple eating in this country would be increased a hundredfold for the superior apples by most people would be more greatly desired than the finest orange, pear or other fruit attainable in the last fall and winter months.

The apple has few rivals among cultivated fruits for its mild and pleasant acid is a panacea for many of the ills that the human race is heir to.

When you find an old homestead anywhere going to ruin after the original owner dies, it is too often because of family discord, dissension or disagreement. Brothers and sisters should work harmoniously in matters relating to the old home place, if only for the sake of the family name, and out of regard for the memory of the dead parent.

English walnuts can be grown with profit in western New York. This has been definitely proved.

Fall Planting of Fruit Trees

Over the greater part of Pennsylvania and southward, most fruit trees can be planted as successfully in the fall as in spring, if the conditions are right. The chief points in favor of fall planting are that such trees usually get an earlier start in the spring, the soil and weather conditions are generally more favorable for planting, the dangers of improper winter storage are avoided, and the fullest stocks and choicest trees are then available at the nurseries, says Penna Farmer.

The conditions especially needed for successful planting in the fall are a proper amount of moisture in the soil, holes prepared before the trees arrive, trees well-matured before digging, and enough open weather after planting to enable the roots to get some connection with the soil before winter. The conflict between the last two items is the usual point of difficulty in fall planting. In general, however, the young trees are sufficiently mature by the early part of October to permit the usual digging and "stripping" of foliage without material injury, and any time within the month of October is usually early enough to enable the trees to get properly established before cold weather comes on, as the roots normally remain active much longer than the tops.

Where these conditions can all be obtained, fall planting is probably preferable, but where they are lacking in any important particular, or wherever the winters are exceptionally rigorous, it is usually safer to defer the planting until spring.

Unsprayed apple orchards are not the profitable ones. Owners of small orchards can co-operate with neighbors in spraying operations.

ORCHARD OPINIONS

The by-product may be the real profit in fruit, after all.

While weeding out weakling trees from the orchard and culls from the crop, why not cull out a few weak brothers from the fruit growing industry? They weaken the whole industry by not seeing the need for business methods and co-operation. They would do better at other things, and the wise growers would be helped. The crop is not the only thing that needs a standard.

The germ seems to be the root of most orchard evils.

Culls on the market drag every price down even for extra fancy fruit.

One letter of protest to a legislator, from a senator to county supervisor, counts harder than the approval of a hundred silent folks. Try writing one, and see.

Give yourself a square deal—don't face fruit packages.

Marketing fruit is harder than growing it, for to market you must deal with men, to grow you only deal with God.

Pure brains on a farm is almost as bad as pure muscle.

Progress can be measured by whether you let wind, frost, sun, dynamite, deep roots and sense break up your seed bed, or whether you try to do it all by mule-power and shallow ploughing.

—American Fruit Grower.

Orchard Blessing

This day two hundred years ago,

The wild grapes by the river's side
And tasteless groundnuts trailing low,

The table of the woods supplied.

Unknown the apple's red and gold,
The blushing tints of peach and pear;

The mirror of the river told

No tale of orchards ripe and rare.

Give fools their gold and knaves their power;

Let fortune's bubbles rise and fall;

Who sows a seed or trains a flower

Or plants a tree, is more than all.

—Whittier.

Spink—"Jones told me to-day that he isn't drinking any more." Spank—"I don't see how he could." —"Life."

Farm Department

The Music of the Cider Mill

By Joe Cone

I like the music of the spheres,
The song of early birds;
I like the voice of Nature's choir,
The looing of the herds.
But of these countless strains that find
Responses in my breast,
The song of Miller's cider mill
Is what I like the best.

I like to hear the Gungy band
Upon its practice night;
The singing of the village choir
Just fills me with delight.
But after all is said and done,
When other strains are o'er,
'Tis Bijah Miller's cider mill
Fills me with something more!

The tramp, tramp of the old white horse
Upon his daily round;
The smacking of the wooden cogs—
A mellow, liquid sound—
The drip, drip of the golden cheese,
The foam upon the tide;
O, Bijah Miller's cider mill
Is music glorified!

SEASONABLE NOTES

September is the month of harvest.

You can save a year on apples, pears and grapes by planting now.

Plow the garden this fall and see how it goes to be able to work the soil which in the early spring had this fall plowing.

It is best to grade your fruit to an even size and to reject all that is inferior in color, knotty, wormy, too ripe, too green, or decayed in the least.

If a man does not know how to prune a tree, he can with safety at least cut out all the suckers and keep the ground free from weeds and underbrush.

Grading fruit is an important operation but requires the undivided attention of the operator, who should see that only perfect specimens of uniform size go to the packing tables.

The shade of the plum trees is good for the chickens, and the chickens are good for the plums. Why not plant some plum trees in the chicken yard this fall?

Set out a new asparagus bed of two year old roots. Give plenty of well rotted manure as asparagus is a heavy feeder. Provide drainage by means of porous tile.

No definite rule can be laid down as to the time of picking apples. When the apple, on being twisted half around, will snap from the spur without breaking the stem, it should be picked.

Currant and gooseberry bushes come into leaf so early in the spring that they should be planted in the fall. These can be planted safely any time after October first up to the approach of winter.

When fruit trees are grown along with poultry they mature more rapidly, begin bearing earlier, and at the same time the trees furnish windbreaks for the earlier chicks and cool shade for the late broods.

In the fall there is generally not so much pressure and hurry of work as is the case in the spring, and this is a good time to set out an orchard. The rains of fall and winter will set the earth among the roots so that growth can begin at the earliest moment in the spring.

Any kind of fertilizer which is helpful to the growth of corn, potatoes and other farm products, will be helpful when applied to any kind of fruit if applied at the proper season, and if applied with discretion and

information regarding the strength of the fertilizer and the soil.

When planting for home use one should use varieties of the highest quality that can be grown with some success in your locality. There are sufficient small fruits and tree fruits of good quality that are fairly productive and hardy.

Storing Cabbage

Dig a trench a foot or eighteen inches in depth and about ten or twelve in width or a little wider than the cabbage head. Line the trench bottom and sides with dry straw, wheat straw preferred. Pull up the cabbage leaving the roots intact and trim off the loose leaves. Begin at one end of the trench and place the heads in singly, then put a little straw between the heads until the trench is filled the entire length. Then cover with straw to a depth of about four or five inches, then cover with dirt to about the same thickness. Be sure to leave the roots exposed above the top of the ground since the stalk serves as a sort of ventilator to carry off the steam and moisture from the cabbage. If any is wanted for use in the winter place boards edgewise along the pit to keep the snow off so it can be gotten at more easily.

In taking the cabbage out begin at one end removing one head at a time, the straw between the head taken out and the next one forming a partition for the dirt that should be again put back in the vacancy caused by the removal of the required heads. The trench should if possible be dug on sandy soil to insure as good drainage as possible. I have practiced this method for a number of years both in New York state and Michigan and have always had good success, often keeping the cabbage in first class condition until the latter part of April and have taken the cabbage out of the pit the latter part of April and found them more crisp and tender than they were in the fall. My method for storing in the cellar for use during the winter is to pull them up and remove the dirt as much as possible from the roots, trim the leaves quite closely and wrap the heads in two or three thicknesses of paper, newspaper preferred and pack in barrels, as boxes admit too much air, and besides you can get more heads in barrels than can be gotten in boxes.—D. H. Morris, Michigan.

Home Vinegar Making

The process of transforming apple juice into good cider vinegar is easily accomplished, and can be produced in every household where the necessary temperature can be controlled.

For vinegar the wind falls can be used, but for the superior article only sound ripe apples should be used. They must be fully ripe, clean, and not rotten or worm eaten. Ripe apples contain the greatest amount of sugar, and it is sugar which is essentially turned into the acid of vinegar.

As soon as the juice has been pressed it begins to ferment. By proper handling of the first stage of fermentation the cider may be converted to vinegar in a very short time. Cider, in changing into vinegar, passes through two stages. First, the sugar is changed to alcohol, next, the alcohol is changed to acetic acid or vinegar, by further fermentation. It takes at least a month for the first fermentation to be completed, but takes six months more for the hard cider to become a good grade of vinegar. Making fruit into vinegar is a satisfactory and profitable way of disposing of waste fruit.

A Good Book

"Bush Fruits" is the title of the revised edition of a book of over 400 pages by Fred W. Card. This is one of the Rural Science series edited by L. H. Bailey. It is well illustrated and should be in the library of every fruit grower. Published by the Macmillan Co., 66 Fifth Ave., New York City. Price \$1.75.

A good form of Home Guardin' is the home garden.

He is Proud of Apples and Red Raspberries, Cultivated on His Own North Carolina Farm

Mr. Stanton claims to have one of the finest little gardens in the city, and he is constantly on the warpath there against the encroaching weed and the crop-destroying insect invader.

He came to Asheville about four years ago from Ohio, in quest of health, and purchased the small farm near Candler for the purpose of upbuilding his shattered constitution and to provide a place for retirement when overtaken by old age.

Mr. Stanton has a hobby for fruit growing, so he set half of the ten acres in apple trees, then equipped himself to cultivate the fruit by taking a correspondence course in agriculture, combining practice with theory. One day he noticed that there was a lot of land between the rows of trees that was going to waste, so he proceeded to set an acre or more in red raspberries, which are now three years old.

Result—the berry idea was a complete success and three times each week a force of berry pickers is on the job plucking hundreds of quarts of luscious beauties for the market. Part of these red raspberries are an early everbearing variety and Mr. Stanton picked them last November. Mr. Stanton added berry growing to his list of hobbies and is never too weary to talk about his crops. When the canes once bear they die and have to be pruned out. The new canes are pruned back early in the spring and all suckers, grass and weeds are kept out by cultivation.

In addition to the red raspberries, Mr. Stanton is now raising strawberries and next year expects a bumper crop.

"The secret of success," says Mr. Stanton, "which applies to both small farms and small churches, is be faithful."

MYERS GLASS SEAT PUMPS

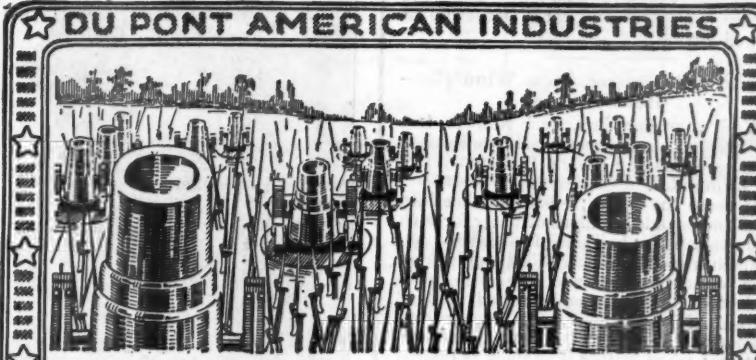
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THE GIANT LABORER NO. 31F

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE



Woman's Dept.

Fling the Flag to the Breeze!

B. F. M. Sours

Fling the flag to the breeze and let loyalty swell

O'er the breadth of the country we love and so well;

For we hail but one flag; we will always be true

To the Stars and the Stripes of the Red, White and Blue.

The Housewife Business

Careful housewives throughout the nation recognize the universal need for sane economy in the use of foods. It seems strange that while our men so nobly respond to the country's call "to arms" many raise strong protest against any change in the home dietary plan. This is one of the objectionable results the housewife must meet after allowing herself to get into a cookery rut. It is now absolutely necessary that these habits be changed.

A family readjustment invariably depends upon the housewife. As home manager, she must now make time to plan the war time economies she realizes her family should make. After carefully working out the plan she must really plan a campaign to win the family over to seeing the necessity for a cutting down of extravagant use and buying in food. To do this, and at the same time enlist the hearty co-operation of the entire family, it is very necessary for madam housewife to be well fortified.

Good Apple Butter from Windfalls—Home Canned

Wash your glass jars, wash rubbers, test rubbers for quality; or wash well-glazed stoneware jars and covers, boil empty jars for 15 minutes.

Measure the apples; wash and slice into small pieces; add 4 gallons of water for each bushel of apples; boil until fruit is soft; rub through a screen or sieve; to the pulp from each bushel of apples add 2 gallons of concentrated cider; Bring to a boil; add 12 pounds of sugar; cook until proper consistency; add spices, cinnamon, and cloves, to taste; when butter is as thick as desired pour it at once into hot jars and seal immediately.

Why Wife of Farmer Fails with Boarders

"I think the reason so many farmers' wives fail with boarders is because they are not willing to learn how to keep them," a woman who has been successful with vacation folks writes. "Graciousness and tact are absolutely essential for success. If you look through the large daily papers you will find many people advertising for a few weeks in the country. There is always more or less correspondence between the hostess and paying guest, and you must be tactful and judge something of your would-be boarder from his letter."

"I found young men and young women clerks, stenographers, and professional people the most desirable class. They did not crave excitement. They wanted rest. As we were a short distance from a lake, the young folks would frequently ask for a lunch and then spend the day on the water. The most disagreeable guests were mothers with small children. When I stopped taking children I found very little dissatisfaction among my people." —"Farm and Fireside."

Save the Fat

The increased prices of butter, lard, and all other fats bid fair to go still higher. Dr. Louise Stanley of the University of Missouri College of Agriculture believes that the shortage can be relieved considerably by saving much of the fat which is usually wasted in the home. Such saving may avert a deficit of this important foodstuff which accounts in part, it is said, for the inadequate diet of the German people. Investigations of additional sources of fat are being made; but it remains for the housekeeper to conserve the available supplies.

The familiar grease trap stood for many years at the foot of the sink as a definite

testimonial of the fat wastage which passed out of the house by that route. The garbage can and the slop bucket give further evidence. Some of this waste is unavoidable perhaps but much of it can be saved and every housewife should appoint herself that task.

Efforts should be made to utilize the fat which comes into the home in the form of fat meat. Much of it is rendered as the meat cooks. This should be clarified and saved. Serve a piece of fat and a piece of lean if the family will eat fat. Otherwise save the fatty portions so that the fat may be rendered and used instead of lard.

The fat which cooks out from bacon should be carefully treasured. If it is not scorched, it may be used for corn bread, muffins, griddle cakes, in salad dressing, to season vegetables, and in numerous other ways.

Chickens in good condition usually yield more fat than is palatable to serve with the meat or soup. The excess may be used acceptably wherever any other fat is used.

recently. "If we continue in our reckless waste of this valuable food, the amount is likely to fall far short of our needs, and the price will be unnecessarily increased. Will you do your part to keep up the supply and keep down the price?"

No home is complete in its equipment without a bountiful supply of canned as well as fresh fruits and vegetables and before any thought is given to making money out of such things the family stores should be abundantly supplied. Although that which is fresh and unchanged from its natural condition is the most palatable and wholesome that which has been properly canned is almost as good and can be kept for use at any time.

The common practice is to store up only canned fruits but there are several vegetables that may be canned with success even with the cheapest canning outfit offered for sale. Green beans, tomatoes, okra, asparagus and rhubarb are among the easiest to can but peas and corn require far more time and heat. These things would be a material addition to the supply for winter use and ought to be provided.

Fruits May be Preserved by Drying

The drying of fruits by means of artificial heat is an easy and simple method of preservation. It may be done in a small home

the pieces; 2. Sufficiently elastic not to break when pieces are rolled into a cylinder; 3. When a mass of slices are pressed firmly into a ball in the hand, they should separate at once when released; 4. Surfaces should be soft and adhere slightly to the fingers.

Other fruits like peaches, apricots, plums, and pears are dried in the same manner as given for apples.

Stout Person's Enemies

Overeating is not necessarily gluttony or anything approaching it. A small meal made up of certain foods will furnish more fuel—and more fat—to the body than one twice as large and less discreetly chosen. Foods vary vastly in fuel value; for instance, one pound of olive oil will stand sponsor for more surplus flesh than forty-five pounds of the lettuce on which we are likely to eat it.

The stout person must learn that he has both friends and enemies at the table. His enemies are sugar, bread, cereal, deserts, butter, cream, olive oil, bacon, cocoa and rich sauces. Among his best friends are lean meats, unsweetened fruits and green foods. Yet, alas! most plump people seem stricken with an ardent love for their enemies. This may be good scripture but it's mighty poor dietetics.—"American Magazine."

Clean and Re-Use Old Paraffin

Paraffin that has become unclean through usage in canning and preserving, may be cleaned and re-used. Don't throw it away because dirt and trash have become mixed with it. Many times paraffin can be cleaned with a brush in cold water. If this does not remove all the dirt, says a specialist of the United States Department of Agriculture, heat the paraffin to boiling and strain it through two or three thicknesses of cheesecloth placed over a funnel. Or a thin layer of absorbent cotton over one thickness of cheesecloth may be used as a strainer. One straining should be sufficient ordinarily but if the paraffin still is unclean heat and strain again. Any paraffin lodging in the strainer may be recovered by heating the cloth and pouring off the hot liquid to another strainer.

Corn on the Cob in Winter

It seems possible that many things not now preserved through cold storage may be successfully preserved by that method. We hear now that sweet corn on the cob may be had during the winter months by freezing. The husks are left on the corn when placed in cold storage. Then we have the preserving of cider by freezing or by placing in cold storage, and this method may be extended to all fruit juices. Further than this, we have learned that strawberries, red raspberries, black raspberries, the most perishable of all fruits, may be frozen in cold storage soon after being picked and kept in that frozen condition for a long period. Butter, milk, cream and meat or flesh of all kinds are now kept successfully. Apples have been kept a year in cold storage.—C. A. Green.

Pears keep better if picked a little green. Some pears rot from the core outward if allowed to ripen on the trees. The fruit that brings the top price is first class fruit that reaches the market in as good a condition as it leaves the orchard and packed in a neat and attractive manner.



Doing Her Bit

It has been recommended as especially desirable for pastry. On account of its consistency it may be mixed with harder fats to make them all more soft.

Soup should be set aside to cool so that the fat may collect in a cake on the surface. This may be placed with the fat to be clarified.

Water may be used in clarifying fat. The amount to be added depends upon the degree of impurity of the fat. Heat only until the fat melts and then stir well. The fat separates as a more or less clear layer on top while the water dissolves out much of the impurity from it. If the fat contains sediment, it can be removed by straining while hot thru double cheese cloth. If objectionable odors and flavors are present, they may be removed in many cases by heating the fat with small pieces of charcoal.

Fats should be kept free from water in closed opaque containers in a cool place. Rancid fats may be kept for soap making.

"If every housekeeper will pledge herself to save the fat we need not fear a fat famine in our country," said Miss Stanley

made or commercial dryer at small expense and with little effort. Miss Addie D. Root of the University of Missouri College of Agriculture offers a few suggestions for drying fruits:

Apples may be peeled and quartered or sliced crosswise in one-eighth-inch slices. Dropping the apples after they are prepared into salt water, 1 tablespoon of salt to one gallon of water, will prevent them from turning brown before being placed in the dryer. It is best to dry them as quickly as possible after preparing so that a light, attractive product may be obtained. The apples should be turned or stirred occasionally to insure even drying throughout. If beads of moisture come out and the apples become very sticky, the temperature is too high. The temperature in the dryer should be kept at about 140 degrees Fahrenheit. From two to two and one-half hours are usually required for drying apples with artificial heat.

The following tests will tell when the apples are sufficiently dry: 1. Impossible to press water out of the freshly cut ends of

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Can your fruits and vegetables in sanitary cans
seal with the H & A Double Seamer, Hand or
Belt power. Write for illustration and prices.
HENNINGER & AYES MFG. CO.
47-C First Street, Portland, Ore.
Builders of the H & A Steam Pressure Canning
Outfits.



Order Patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

2185—Ladies' Coat. Cut in 5 sizes: 34, 36, 38, 40 and 42 inches bust measure. Size 38 requires 6 1/4 yards of 54-inch material. Price, 10 cents.

2172—A New and Popular Style. Cut in 4 sizes: Small, 32-34; Medium, 36-38; Large, 40-42; and Extra Large, 44-46 inches bust measure. Size Medium will require 6 1/4 yards of 48-inch material. Price, 10 cents.

2175—Dress for Misses and Small Women. Cut in 3 sizes: 16, 18 and 20 years. Size 18 requires 6 3/8 yards of 44-inch material. The skirt measures about 3 1/8 yards. Price, 10 cents.

2184-2187—A Charming Three-Piece Suit. Cont. Waist 2184 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 2 3/8 yards of 36-inch material, for the waist, and 3 3/8 yards for the blouse, for a 36-inch size. Skirt 2187 cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches. Waist measure, and requires 3 2 3/8 yards of 36-inch material for a 24-inch size. The skirt measures about 2 1/2 yards at the foot. TWO separate patterns, 10 cents FOR EACH pattern.

2192—Girls' Coat. Cut in 5 sizes: 6, 8, 10, 12 and 14 years. It requires for a 14-year size, 4 1/2 yards of 54-inch material. Price, 10 cents.

2004—Junior Dress. Cut in 3 sizes: 12, 14 and 16 years. It requires 5 1/4 yards of 36-inch material for a 14-year size. Price, 10 cents.

2174—Girls' Dress. Cut in sizes: 2, 4, 6 and 8 years. It requires 2 1/2 yards of 27-inch material for the dress and 1 1/2 yards for the guimpe, for a 4-year size. Price, 10 cents.

2180—Girl's One-Piece Dress with Guimpe. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. It requires 1 3/4 yard for the guimpe, and 4 yards for the dress, of 27-inch material, for a 10-year size. Price, 10 cents.

TESTED RECIPES

Peach Cottage Pudding.—Cream half a cup of butter, one cup sugar, and add two well beaten eggs, a cup of rich milk, a pint of flour mixed with two teaspoonsfuls of baking powder and a pinch of salt. Into this batter stir sliced peaches—"pie peaches"—as many as you think will make a rich pudding. Butter an oblong pan, not too deep, and bake the cake for half an hour in moderately hot oven.

Corn Fritters.—Six ears of tender corn, cup of milk, three eggs, one large teaspoon of baking powder, salt, pepper, two cups of flour.

Prepare as for stewed corn; separate eggs and beat light; add the yolks, milk, salt and pepper to the corn. Sift the flour and baking powder together, add to the mixture, stir thoroughly, and then stir in the beaten whites. Drop by spoonfuls into hot fat,—a temperature of 320 degrees Fahr. Brown on both sides; skim out, drain on crushed paper, and serve hot, or fry on a hot griddle. An accompaniment to fricassee of chicken in corn season.

Pear Honey.—When canning pears take the clean peelings, with any of the fruit that is not perfect enough for canning, cut in bits and put in the preserving kettle with water to cover. Cook until soft, then strain through a cheesecloth bag.

To six cupfuls of the juice allow four cupfuls of sugar, and cook half an hour, skimming often. A pinch of powdered alum will keep the syrup from forming crystals. Pour into hot sterilized glasses and seal. This is excellent to eat on waffles and pancakes.

Canned Tomato Sauce or Puree

Cut the tomatoes into fairly small pieces and add one large-sized onion chopped and one cup chopped sweet red pepper to one gallon tomatoes. Cook until tender. Put through a sieve and add a mixture of 1-3 salt and 2-3 sugar in a proportion of one teaspoonful to each quart of the mixture. Cook until the consistency of ketchup, stirring constantly. Pack hot into sterilized jars or bottles. Adjust rubber and cap—place the containers on a false bottom in a vessel of water sufficiently deep to reach almost to their tops and allow to remain at a boiling temperature for 25 minutes. Remove jars from the water bath and tighten the lids immediately.

Preserve Butter for Winter Use

Farmers who are making butter for winter's supply should use sweet cream of good quality, pasteurizing it by keeping the container in hot water for 30 minutes at a temperature of 145°F. says the N. Y. State College of Agriculture. The cream should be stirred frequently during the process. It should then be cooled to approximately 50°F. It is important that the butter should be made from sweet cream, rather than from sour cream, since the keeping quality of sweet-cream butter is better.

This cream should be churned in the usual way and the butter may be packed solid in stone jars or it may be made into pound prints and packed in jars, either with or without the regular parchment paper wrappers. The butter should then be completely covered with a salt solution sufficiently strong to float an egg. A large plate, or a header made of some odorless wood, should be placed on the butter and then clean stones or bricks may be used to weight it.

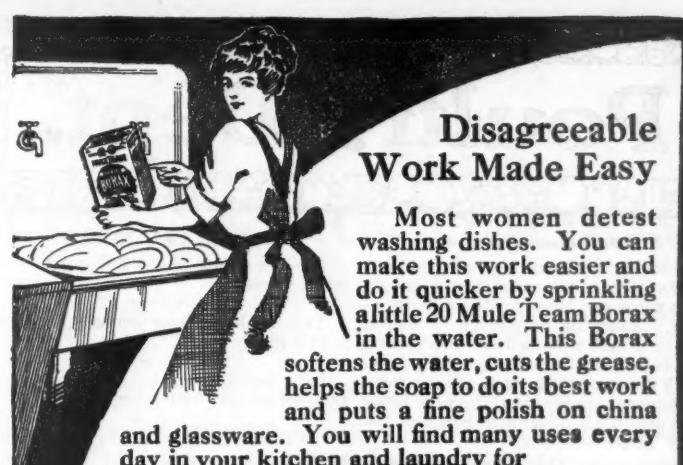
Persons who are not making their own butter can secure satisfactory results by getting fresh butter made from sweet cream and packing it as described. Such butter may be obtained of nearby creameries in wholesale lots. The butter should contain the usual amount of salt. Care should be taken to pack it in stone jars which have been thoroughly scalded and are free from taint or odors, and the butter must be kept covered with the brine solution.

Butter packed this way and stored in a cool cellar should keep all winter.

CATALOGUE NOTICE

Send 10c. in silver or stamps for our Up-to-Date FALL AND WINTER 1917 CATALOGUE, containing 550 designs of Ladies', Misses' and Children's Patterns, a CONCISE AND COMPREHENSIVE ARTICLE ON DRESSMAKING, ALSO SOME POINTS FOR THE NEEDLE (Illustrating 30 of the various, simple stitches), all valuable hints to the home dressmaker.

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Most women detest washing dishes. You can make this work easier and do it quicker by sprinkling a little 20 Mule Team Borax in the water. This Borax softens the water, cuts the grease, helps the soap to do its best work and puts a fine polish on china and glassware. You will find many uses every day in your kitchen and laundry for

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Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts of pure soap. Not a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages.

Sold by all dealers.



Fruit Growers Please Read

Some time during the months just past you, no doubt, have been troubled with different orchard pests such as scale, leaf curl, aphis, pear psylla and many others. You are going to have the same trouble again during the summer of 1918 unless you spray your orchard with Scalecide this fall after the leaves have fallen. Scalecide is a guaranteed remedy for the above orchard pests. One gallon of Scalecide makes 16 gallons of spray by adding 15 gallons of water. For further particulars in regard to Scalecide send for our Circular No. 13, also booklet, "The Whys and Wherefores of Fall Spraying."

Price of Scalecide: 1 gallon, \$1.25; 5 gallons, \$5.25; 10 gallons, \$9.00; 30 gallons, \$19.25; 50 gallons, \$29.50.

The Niagara Fruit Ladder

A ladder made from the best selected white basswood, with tie rods at every other step. A model for strength, lightness and durability. It always stands and never rocks, no matter how uneven the ground may be.

Prices: 6 ft., \$2.00; 8 ft., \$2.75; 10 ft., \$3.50; 12 ft., \$4.00.

Wood Veneer Tree Protectors

Insure your orchard against the ravages of rabbits, mice and sun scald, by using these protectors. Size about 9 1/2 x 18 inches. Soak the protectors in water before using to prevent their cracking.

Price: \$1.00 per 100; \$4.50 per 500; \$8.00 per 1000. Sample by mail postpaid 10c.

Order above goods *at once* as prices are subject to change without notice

Send for New 8-Page Circular of fruit growers supplies with instructions about spraying

Address GREEN'S NURSERY CO., Service Dept., Rochester, N. Y.

Poultry Dept.

The Lone Goose

A bird loving boy found a goose egg near a neighbor's barns. He asked permission to take this goose egg home for the purpose of hatching. Receiving permission he placed the egg in a nest occupied by two setting hens, each of which selfishly desired possession of all the eggs in the nest. This rivalry caused constant commotion, the eggs being one day drawn all under one hen and the next day under the other.

Notwithstanding this severe experience the eggs hatched and from the goose egg emerged a fury specimen of the bird tribe that attracted wide interest among a number of children who had never before seen a gosling.

The tribulations of this little goose began early. Neither of the hens that brooded over the goose egg would own the goose. The innocent creature would attempt to fraternize with one of these savage hens but the only attention it received was vigorous pecks from sharp bills. Strange to relate a hen that had not been setting upon any nest but desired to do so adopted the gosling and proceeded at once to make it veritably her own. At once deep affection sprang up between this old hen and her protege.

One night a strange dog drove the poultry from their nesting place and among them in the disturbance was the lone goose. Next morning the little goose was found with a broken leg which caused its close confinement for several weeks, carefully splintered to hold it in shape until nature could knit together the broken parts.

How many strange things can happen even to a goose. This little specimen was removed from its city home to the lakeside many miles distant where the family moved for a summer's sojourn. The boys spend many happy hours in this lake. Our friend the gosling one bright summer's day in waddling around the rear of the house in search of succulent grasses saw a tempting morsel suspended from a pole and immediately attempted to swallow it. Greatly to its astonishment it had swallowed not only a fish hook but an assemblage of fish hooks, which impinging upon his upper and lower jaw prevented either the swallowing of it or the thrusting of it from his mouth. Great was the consternation among the poultry when the gosling staggered about the place with loud ejaculations of discomfort. Some said to kill the bird and put it out of its misery, but the lady of the house, a skillful nurse, carefully removed the barbed hooks and set the lone goose at liberty.

The relationship existing between the mother hen and the baby goose was remarkable, inasmuch as the hen's inherent tastes and inclinations were opposite to those of the gosling. The hen fed largely on bugs and worms. The gosling looked about for certain succulent weeds or grasses. The mother hen retired to rest for the night at an early hour, but the gosling preferred later hours for retirement. The hen maneuvered diplomatically to induce the gosling to turn toward the couch for the night. She herself would enter the enclosure and cluck in vain to induce the gosling to take his place by her side. Every night he would linger outside the door, evidently saying to himself: "I must have just one more leaf of clover or one more spear of grass. I cannot see why the old lady should get into such a pernicious habit of early going to bed."

And when at last the pair were safely ensconced in the somewhat cramped enclosure prepared for them for the night they presented a comical spectacle. The hen would keep up her clucking to a moderate extent and the gosling would continue his speech-making or baby talk accompanied by strange gesticulations of his little head perched on the end of a long skinny neck, giving one the impression that the pair were entering into a profound discussion on some important subject, while it was clear to the observer that neither the goose understood what the hen was saying nor did the hen understand the talk of the goose.

POULTRY NOTES

Broilers shrink about half a pound each when dressed.

Two weeks is long enough to fatten a fowl if highly feed.

Late hatched chicks should be fed by themselves, not with a larger stock.

No man can raise poultry and produce eggs at so low a cost as the farmer.

Store away some oats, wheat or rye in the sheaves for the use of the hens in the winter.

Both hens and pullets need to be well cared for during the fall months if winter eggs are wanted.

Fowls should never be kept in such quarters that they cannot take sufficient exercise to promote digestion.

Repair the poultry house now if eggs are desired in winter. The first cold weather should find all in good condition.

Shade is one of the most important essentials during the hot months. Get the chicks into the orchard and cornfield. It is not too late to plant sunflowers.

While the weather is still dry and warm, the poultryman should store away several barrels of road dust to be used in the dust boxes during the winter months.

Preservation and Use of Poultry Manure

There is no natural manure produced on the farm as rich as poultry manure, says the state college of agriculture, yet it receives from the farmer the least attention of any of the animal excrements. Average mixed horse and cattle manure carries ten pounds of nitrogen, five pounds of phosphoric acid and twelve pounds of potash per ton. Poultry manure contains in comparison thirty-two pounds of nitrogen, 35 pounds of phosphoric acid and eighteen pounds of potash. Where ordinary farm manure has a fertilizer value of \$1.50 per ton, poultry manure is worth \$5.00 per ton. Even when produced in small amounts such material, says the college, is well worthy of careful preservation.

Poultry manure should be allowed to dry as quickly as possible and kept dry. In this condition it will lose but small amounts of its valuable constituents. Like ordinary manure it ferments rapidly when moist and will lose thereby a large percentage of its nitrogen, worth on the market twenty-five or thirty cents a pound. Since much of its potash, phosphoric acid and nitrogen is soluble, this manure may suffer greatly from leaching.

Caustic lime should never be mixed directly with poultry manure as it encourages the chemical and biological actions spoken of above which liberate nitrogen as ammonia.

Poultry manure is rich in nitrogen and low in phosphorus. These two conditions may be corrected by diluting and reinforcing the manure as follows: To ten pounds of the manure add six pounds of sawdust (or some similar dry material) and four pounds of acid phosphate. This gives a fertilizer carrying .8% of nitrogen, 3.6% of phosphoric acid and .45% of potash or about the same proportion of plant food elements that are found in a 3-12-2 mixture but only one-fourth as concentrated.

The usual advice for the control of sheep sorrel is to apply ground limestone, 2 tons per acre, hydrated lime 1½ tons per acre, or quicklime 1 ton per acre. The quicklime can be used to advantage by slaking with water and sprinkling the mixture freely over the sorrel. The liquid will injure the leaves of the sorrel as well as help correct the soil acidity.

The poultry yard is always available for some fruit trees. Grapes can easily be grown on an arbor for shade at the kitchen door. They are not short lived and once planted, proper pruning will keep them productive for a life time.

Diner—For a spring chicken this is pretty tough.

Waiter—Well, sir, you know we've had a pretty tough spring.

If you have a good sized garden it will pay to have a wheel cultivator. The small garden will be better cultivated with hand tools, especially if the work has to be done at odd moments.

Gardeners are Urged to Save Seed

A stunt that will try the mettle of the back-yard gardener is now proposed for his performance. The great seed houses and the large importations of seed from Holland and Belgium have made many persons who do gardening on a small scale neglectful of saving seed from their own plants for the following year, but the large demand for seed this spring is said greatly to have reduced the surplus supply in this country, and importations have, of course, fallen off. It is not a serious problem for the gardener to save such seed as that from beans, peas, sweet corn, potatoes, lettuce and tomatoes, but it is different with cabbage, Brussels sprouts and like vegetables, and much different with the roots. The system by which many vegetables are reproduced is a mystery to a great many people, who have considered it cheaper to buy seed than to bother about saving it. An immense amount of ignorance exists with respect to even the propagation of flowers and shrubs. Those who at this time give attention to the matter of preserving seed will not only do their country a service, but will gain a good deal of interesting information about nature's processes.—D. & C.

New York State Food Supply Commission

That farmers need not fear overproduction is emphasized in the report of the New York Food Supply Commission to Governor Whitman. The report says:

"Some farmers have feared overproduction. This fear might be justified were it not for the condition in Europe. All of Europe is approaching the famine state, and there is no possibility that the farmers of Europe can give the care necessary for the production of the best crops.

"The intelligent way in which New York farmers have responded to the demand for more food is shown by the increase in acreage of those crops for which there is the most demand. The total acreage of crops is practically the same as that of eight years ago, but there is 770,000 less acres of grass. This area has been added to the area of grains, fruits and vegetables. In eight years the bean acreage has increased 138 per cent., wheat 45 per cent., fruit 35 per cent. Never before have so many acres of intensive crops been grown in New York. The total acreage of fruits, beans, potatoes, cabbage and other vegetable crops is a third more than it was in 1909."

The following shows the use to be made of farm land in New York State in 1917: Fruit crops, 535,088; potatoes, cabbage, vegetables and miscellaneous crops, 624,613 acres; beans, 275,790 acres; corn, oats, barley, buckwheat, wheat, rye, 2,698,016 acres; corn for silo, 422,867 acres; hay crops, 4,145,590 acres.

The report shows that farmers seek twenty-four per cent. more fertilizer than was used last year. An increase of fourteen per cent. in the use of lime for fertilizer is shown. Many farmers ask for potash, but the commercial supply is not available because of the war.

"Very much larger amounts of lime

could be used," it states, "in many sections, particularly on the hill farms. In

many parts of the state an application of

from half a ton to a ton is needed every

five years, or a ton each year for each five

or ten acres of crops."

The usual gait of the fox, unlike that of the dog, is, at night at least, a walk. On such occasions he goes through the fields in an alert, stealthy manner, stepping about a foot at a time, and keeping his eyes and ears open.

Best Varieties of Currants

Green's Fruit Grower: I am growing small fruits, mostly currants. I have two large red varieties and the White Grape, also 20 Perfection, about 300 bushes in all. I wish to set out about 200 more this fall. What variety do you consider the best?—F. R. Morgan, Ohio.

Reply: I consider the Red Cross Currant one of the best varieties in many respects. It is a big grower and very productive. It is not quite so large as Diploma. It requires less sugar than any other currant I have experimented with. Wilder is an excellent late currant, coming into market after most of the others are gone.

Starfish can grow new arms, also absorb new claws, and lizards new tails. A new lizard will not indeed spring from a tail or a new lobster from a discarded claw, but a new starfish will grow from a detached arm.

Philo Business-Hen White Orpingtons Illustrated catalogue FREE. Cycle Hatcher Company, 2 Lake Street :: ELMIRA N. Y.

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No display advertising will be placed in this department and no type larger than 6-point. The first three words only to be printed in capital letters; Each abbreviation and number will count as one word. Rate 10 cents per word for each insertion. No advertisement inserted for less than \$1 per issue. We cannot afford to do any bookkeeping at this rate. Cash must accompany every order. Orders must reach us not later than the 15th of the month previous to the month in which the advertisement is to appear.

Terms: CASH WITH ORDER. Green's Fruit Grower Co., Rochester, N. Y.

FOR SALE

STRAWBERRY PLANTS, pot-grown and runner for fall planting. Also raspberry, blackberry, asparagus plants, fruit trees. Catalogue free. Harry H. Squires, Good Ground, N. Y.

DUROC PIGS \$22.00 pair. Pedigreed. Write S. Weeks, DeGraff, Ohio.

20,000 FERRETS. PRICES and book free. N. Knapp, Rochester, Ohio.

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WANTED IMMEDIATELY-THOUSANDS men and women, 18 or over, for U. S. Government Jobs. War means many vacancies. \$100 month. Steady work. Life appointment. Write for list positions, Franklin Institute, Dept. G146, Rochester, N. Y.

MAN, WEAR FINE suit; be agent, spare time. Good pay. Banner Tailoring Company, Dept. 662, Chicago.

PATENTS

IDEAS WANTED—MANUFACTURERS are writing for patents procured through me. Four books with list hundreds of inventions wanted sent free. I help you market your invention. Advice free. R. B. OWEN, 50 Owen Bldg., Washington, D. C.

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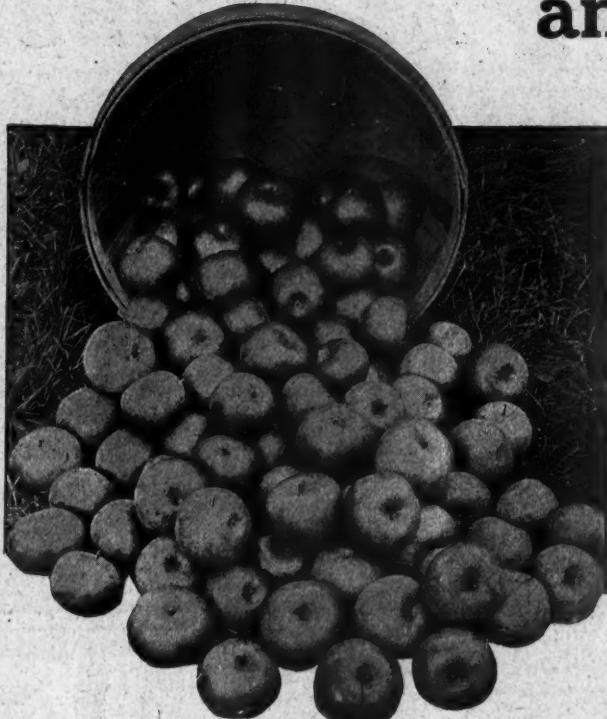


BROOKS' APPLIANCE the modern scientific invention, the wonderful new discovery that relieves rupture will be sent on trial. No obnoxious springs or pads. Has automatic Air Cushions. Binds and draws the broken parts together as you would a broken limb. No salves. No lies. Durable, cheap. Sent on trial to prove it. Protected by U. S. patent. Catalog and measure blanks sent free. Send name and address today.

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Prices are Advancing—Buy NOW and SAVE MONEY

Big Sale of Fruit Trees, Plants, Shrubs and Vines



Banana Apple

A long winter keeper. Best quality. Fruits abundantly. Trees bear young.

Professor H. E. Van Deman, one of the most noted fruit growers and pomologists, has said over and over again that October and November are the most favorable months for planting fruit trees, also for hardy ornamental plants, vines and trees. Mr. Van Deman gave these reasons why fall is a good season for such planting. The soil is in better condition in the fall than in the spring and the trees are in proper condition for digging and planting. Farmers and others are not so seriously driven in the fall as they are when busy with planting, seeding and fitting the of ground in the early spring. Nurserymen are also not so busy in the fall as in the spring and are thus enabled to give more time and can attend to orders more promptly than in the spring.

A Big Supply of the Leading Varieties of Apple Trees for Sale

Apple trees are among the items that can be safely planted in the fall. We call attention to such notable varieties of apples as the McIntosh Red, King, Wealthy, Wagener, Baldwin, Greening, Duchess, Banana, Delicious and many others which we shall begin to dig October first and continue to dig and ship until winter sets in.

High Grade of Trees at Favorable Prices

Our prices on all we produce are as low as they can be sold consistent with good quality.

Standard Pear Trees for Sale

October and November are the months for planting standard pears and dwarf pears. Our leading varieties of pears are, Bartlett, the old standard of excellence, Anjou, for early winter, Clapp's Favorite, for early summer, Kieffer, for late fall, Wilder Early, the earliest of all, and Sheldon, one of the best in quality, Worden Seckel, new and popular, Lawrence, Louise Bonne, Vermont Beauty and Bosc. We make a specialty of Bosc, one of the handsomest and of the highest quality.

Ornamental Trees at Special Low Prices

Owners of parks and those laying out extensive grounds should be attracted to our special low prices for the following ornamental trees, Silver Maple, Norway Maple, Ash-leaved Maple, American White Elm, Carolina Poplar, Deutzia, Spiraea and Norway Spruce.

We offer special prices on Downing gooseberries, Red Cross and Diploma currant bushes, asparagus plants and rhubarb roots.

Get Your Trees Direct From The Old and Reliable Green's Nurseries

Send for our Fall Catalog Now!

Fall Catalog contains a list of trees and small fruits you should plant this October and November.

We offer the following list for Fall Planting: Apple Trees, Pear Trees, Cherry Trees, Plum Trees, Quince Trees, Grape Vines, Currants, Raspberries, Blackberries, Gooseberries, Garden Roots, Ornamental Shrubs and Ornamental Trees.



Beurre Bosc Pears

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GREEN'S NURSERY COMPANY

91 WALL STREET

Catalogue Free on Application

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GB-40	No. 4	500 lbs.	75.00	150.00	★	\$45.00	
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A powerful machine of enormous capacity. 15 to 20 tons per hour. Cuts any kind of silage as fast as you can feed it. Order No. GB-517. Price, \$120.

Advance Ensilage Cutter



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Greatest bargain ever offered. Five-china, enameled, high grade components. Full outfit. 1000 watts. 100 ft. of wire. 100 ft. of switchboard all complete with Willard, reed, stems, batteries, etc. Order No. GB-520. Price, \$197.50.

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